Imperata cylindrica (var major) Blady Grass

1994 Feb. 26. Growing along coast between Golden Beach & Seaspray on coastal side of road. Inflorescence very silky. Description in grass folder.

Indigofera Australis (Indigo)

1966 17 Sept Flowering at Home Bush
1967 3th . White variety on our property facing Downie's Lane. (~~ours~~)
15 Sept Flowering on Heyfield - Glenmaggie Rd.
2nd Oct Pale variety ~~on~~ flowering on our property
Oct 22nd. flowering along T'gon - G'dale Rd.
1968 Sept 28th " near Dutson Downs. Quite tall about 9ft.
Oct 4th Flowering at Burgoin's Gap.
Nov 2nd " " Briagalong.
1970 Oct 11th " " Heyfield
17th " " Briagalong.
1971 Sept 4 " " Grampians.
21 " " " Toronga Falls
1972 July 22 Plant Growing in Fairy Dell.
1978 Jan. Extra species I. signata. Willis 2: 299 (1972) [C. Beauglehole & R. Parsons]
1994 Oct 28 Flowering in T'gon Sth Reserve
Oct 30 " " Dawson Water Reserve
Nov 9th " on Licola weekend
1995 Jan 15th " " Dargo "
Oct 25 " " Mt Heddrick.
2002 Nov 23 " " Holey Plains State Park.
2006 Sept 29 " " Wilson's Prom

Isolepis cernua. Nodding Club-rush

1995 Dec 12" Growing on Railway Reserve near Traralgon
Written up in sedge book.

1996 Dec Growing Railway Reservoir Conservation Reserve, Traralgon.

Isolepis cernua. Grassy Club-rush

1994 Oct 28th In seed in Tigon Sth Reserve.

Isolepis habra. Wispy Club-sedge.

1996 Dec Growing on Old Melb Rd near Latrobe Rd, Morwell.
1999 Oct 10th Growing in Bankie Wetland, Darnum.

Isolepis inundata. Swamp Club-rush

2002 Nov 30th Flowering at Toongabbie Wetlands.
2001 Nov 9th " " Railway Reservoir Reserve, T'gon.

Isolepis marginata Club-rush

1994 Oct 30 Recorded in Dawson R'way Reserve

1999 Oct. 23 " at Gellion's Run. at East end in damp area. Tiny plant.

Isotoma axillaris Rock

1969 Nov 2nd Flowering at Briagalong.
1970 Jan 2nd " " Tamboritha Saddle.
1970 Nov 25th " " Briagalong
1991 Oct 12th Plant growing on Mt Heddrick. Leaves quite indented.
1994 Nov 9th Recorded on Licola weekend.
1995 Oct 25 Flowering near Rock at Mt Heddrick.

Isotoma Fluviatilis

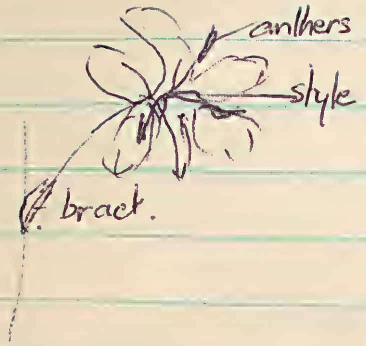
Swamp Isotome

1966 Nov 13th Flowering at bend of Gormandale Road.
1967 Feb 12th " in sphagnum moss at Wolfe's property.
Dec 31st " opp. Mailbox TRARALGON SOUTH.
1968 Jan 28th " at Wolfe's swamp.
Nov 10th " past Shingle Ck Reserve
1969 Feb 16th " Rosedale — very erect form.
Oct 18th " "
1970 Jan 26th " in swampy area along side of road to Benambra in Wulgulmerang area.

1996 Dec Flowering on Old Melb. Rd near Latrobe Rd, Morwell.
1999 Oct 23rd " " Gellion's Run
2005 Mch 3 " " Railway Reservoir Cons. Res. T'gon.

Ixia. polystachya. Variable Ixia.

1997 Dec 14th Flowering on roadside in front of Calligaee School. Flowers white in dense cluster on top of wiry stem. Flowers with 6 petals, rounded at the apex. Our specimen had green in the centre, but different books have different colours for this so perhaps that is part of the variability. Stamens & style are deep blue. Filaments not fused at base, style shorter than stamens 3-branched. Stamens (anther) long & erect on filament.
Petals with purple vein on back & spreading at apex.
Individual flowers each have a bract at junction to stem & then a pedicle almost 1cm long.



Ixodia achilleoides

1972 Aug 29th Plant growing in Gorge & Flat Rock area. Plant usually dry at this time of year but this year we did find one with "petals" still one it. Book says plant is sticky. "Petals" were white.
Plants are sticky & bright green.
Leaves linear.

JUNCUS

I thought I would up-date the Juncus species in Willis; but it is just too big a job. There are now 51 species of Juncus recorded for Victoria.
There are 4 name changes for the species in Willis :- *Juncus pusillus* is now *J. sandwithii* which was changed in 1970; *Juncus plebius* has gone back to the old name *J. homalocaulis; J. maritimus* was changed to *J. kraussii* subsp.*australiensis* in 1993 and *J. polyanthemos* went to *J. usitatus* in 1963.
On page 287 in Willis, in brackets, Willis mentions plants with intermediate features between 5 species suggesting they may be hybrids. Apparently the splitters have been in action and have checked and ascertained that some of these internediate plants can now be raised to species level.
There are 21 species of Juncus in the June, 2003 Census that are not in Willis. Of these 8 are introduced species naturalised now in Victoria. Of the other 13 they have been described in publications from South Australia in 1978, Tasmania in 1991 and N.S.W. in 1993 and one was described in New Zealand in 1964.
In the Flora of Victoria there are 7 species referred to, but not described in detail, that are not yet in the Census. All these species, except one, are recorded already in N.S.W. and their appearance in Victoria is anticipated. The remaining species is endemic to Tasmania at present.
There is only one species of Juncus in the Census not mentioned in the Flora of Victoria and that is an introduced species.
It is no wonder we had so much trouble identifying the Juncus on Botany Day, especially as the species was not in Willis.

Specimens on Saturday 31st.July.
The specimen we spent so much time with was *Juncus flavidus*, the Yellow Rush. The common name I think comes from the fact that the culms, etc can be a yellow-ish green. The reason we couldn't key it out was because this species is not in Willis. We got as far as *Juncus ingens* which is the nearest species in Willis. The difference between these two species is mainly that the flowers in *J. ingens* have male and female flowers on separate plants and *J. flavidus* have male and female flowers in the same inflorescence. Others differences are that the primary bract at the top of the flowers is up to 30cm in *J. flavidus* and can be up to 50cm in *J. ingens*; the tepals are 2.7 - 3.5 mm and 1.6 - 2.6mm respectively and there are 3 to 6 stamens in *J. flavidus* and there are 6 in *J. ingens*. The Flora of Victoria states the distinctive characters for *J. flavidus* are dull culms, almost smooth above apex of leaf sheath (as opposed to raised striations), long acuminate tepals and reddish-brown leaf sheaths. *Juncus flavidus* occurs in three different sections of the key so it must be a very variable plant.

If we had keyed out Jim's specimen we would have succeeded as it is in Willis and our specimen was typical of *Juncus vaginatus.*

The tepals (that are sepals and petals in other plants) with the fruit inside can be seen as different as per sketches below.

Joycea pallida

'Chionochloa pallida.' Silver-top Wallaby-grass

1995. Dec 19. Growing on Railway Line Reserve T'gon

* Juncus ~~(acuminatus)~~ bulbosus. Prickly Rush

2005 Nov 13 Flowering in pot in garden. Came from Morwell Golf Course. Brought by John Topp. See notes in Grasses & Rushes file.

~~2006 Jan 23~~ Identified by David Cameron but he needed dried fruits to be sure.

2006 Jan 23 Sent specimens to David & herbarium as David was sending previous specimen there. Received reply from herbarium stating it was definitely J. bulbosus - fairly common in creeks, roadsides, drains, moist pastures & other soakage areas over range of altitudes. Specimen kept at herbarium as as minute pathogenic fungus. (possibly a smut fungus) was present on leaf blades. Letter does not say but I presume fruit was deciding feature as seed of above two species differ in markings.

*Juncus articulatus

1993 June 29th Plant growing in [submerged] water in Tanjil River looks like the illustration ~~of~~ and certainly has the hollow stems with septa across them. But will have to collect fruiting head before we can be sure. Wrote to Dr Parson's & sent specimen to ~~to~~ ask if he had any knowledge of its spreading habits & if it could be a problem in the future.
Identification verified by D. Albrecht at Herbarium. He thinks its probably a good river bank stabilizer & as it's so widespread already he can see how its use could be defended in areas already carrying lots of alien plants. But Dr Parsons couldn't find anything on its spreading habits.
Difference between J. articulatus & J. holoschoenus is that one is creeping & the other is tufted.

Juncus (vaginatus ?) australis

1975 Sept 6. Plant growing in McCormack's Bush.
Stem with clustered seeds on one side &
stem continuing 14 cm past seeds. Nuts,
longer than perianth segments, arranged
in clusters at end of ~~tea~~ bare branchlets.
Several branchlets of varying length.
Bract broad & not rigid.

Pith soft & continuous stem 2-3 mm.
Hope identification is correct.

990 Dec 8th Growing in roadside bush block at Willung 2km
from second Willung Hall road on Gormandale /
Willung Road. Plants about 6ft + in height in
damp area.

*Juncus bufonius Toad Rush

1994	Nov 26th	In seed in APM block Stradbroke Sth. Gipp. H'way.
	Nov 1	" " " Casuarina Reserve Fulham.
1995	Dec 12	" " " Railway Reserve near Traralgon.
1996	Dec	" " " Old Melb Rd near Latrobe Rd, Morwell.
	Dec	" " " Railway Reservoir Conservation Reserve, Traralgon.
2000	Dec 3rd	" " " Sweetwater Ck. Reserve.
2001	Dec 1	" " " Sandy Ck bush, Newborough.

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Bon Thompson
P.O. Box 644
Traralgon 3844
Victoria

24 April 2006

Dear Bon,

Thankyou for your letter and the accompanying specimen of *Juncus bulbosus*, which we received on the 5 April 2006.
The phenomenon, which you describe in your letter and as evident in your specimen, is known as proliferation (inflorescences bearing plantlets instead of flowers or fruits) or as vivipary (germinating while still attached to the parent plant). It is not unusual for the flowers of *Juncus bulbosus* to occasionally be replaced by proliferating shoots, as can also occur in *Juncus articulatus*. Other examples of proliferation include *Isolepis prolifera, Eleocharis atricha*, **Poa bulbosa* var. *vivipara* etc.

With regards,

Val Stajsic
Identifications Botanist

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Juncus bulbosus Bulbous Rush

2005 Mch. 5th Jim Blucher brought specimen from his property at Jeeralang to Botany Day.

Botany Day 5th March, 2004

Jim's specimen in the bucket was *Juncus bulbosus* - Bulbous Rush an introduced plant.
Some of the distinguishing features were :-
it has a rhizome or creeping stem that goes to the next clump.
it has leaves up the culm as well as at the base,
basal leaves usually more or less equal to or shorter than culms,
inflorescence of 3 - 22 florets in a cluster, and terminal,
capsule three-sided, ovoid just exceeding the tepals by 1-2mm. and shortly mucronate on blunt apex,
tepals almost equal,
leaf blades hollow and transversely septate and laterally compressed,
leaf-sheath margins produced at the apex into small ears or auricles that meet towards the middle of the leaf.

See further notes in Grasses & Sedges book.

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leaf blades hollow and transversely septate and laterally compressed,
leaf-sheath margins produced at the apex into small ears or auricles that meet towards the middle of the leaf.

See further notes in Grasses & Sedges book.

*Juncus effusus Soft Rush

1994 Nov 1 In fruit in Casuarina Reserve Fulham
1995 Apr 12th Growing in Drouin Water Reserve.

Juncus flavidus Yellow Rush

2002 Apr 29th Growing in Heyfield Wetland. Interrupted pith, peduncles long + bare before spikes. Several inflorescence of varying lengths.

Nov 30th Growing in Toongabbie Wetland.

Juncus gregiflorus Rush

1994	Oct 30	Growing	in	Dawson Water Reserve.
1995	Dec 12th	"	"	Railway Reserve near Traralgon
1996	Dec	"	"	Old Melb Rd near Latrobe Rd, Morwell.
2000	Apr 11th	"	"	Heyfield Wetland.
2002	Nov 30th	"	"	Toongabbie Wetland,

Juncus holoschoenus. Joint-leaf Rush

1996 Dec Recorded on Old Melb. Rd near Latrobe Rd, Morwell.
2002 Nov 30" " " Toongabbie Wetland.

Juncus homalocaulis Wiry Rush

1994 Nov 1 In fruit in Casuarina Reserve Fulham.
1995 Dec 12 " " " Railway Reserve near Traralgon
1996 Nov 7th " Gifford Rifle Range.
Dec " Old Melb Rd near Latrobe Road, Morwell.
2001 Dec 1 " " Sandy Ck bush, Newborough.

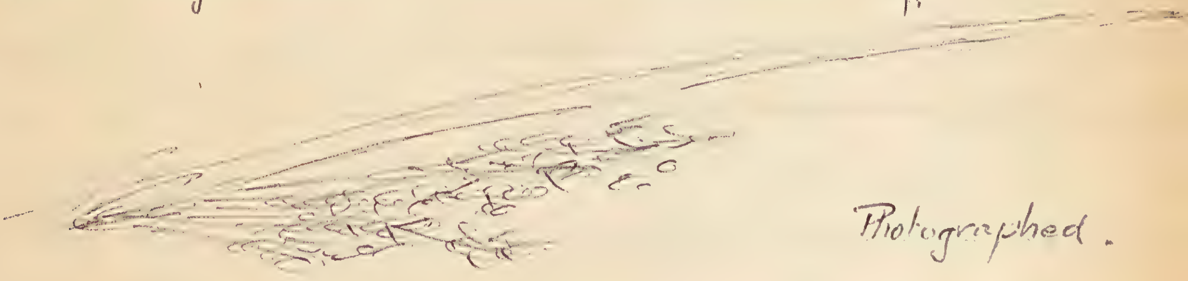
Juncus Kraussii Sea Rush

1996 Apr 22nd Growing near Lot 213a Rosedale.
Written up in grasses & sedges book.
Ellen has it recorded over her way. Describes it as common rush, solid pith & spongy.

Juncus pallidus   Pale Rush.

1990 Nov. 18 Flowering along our walking track.
Flowers lateral to a single erect bract longer than the inflorescence. 23cm past inflorescence break. It appears culm just continues on with split on one side to allow flowering section. Pith of culm continuous with no woody threads, just spongy & airy looking. Culm about 5mm in diameter.
Inflorescence of app. 9 "branches" in a loose but erect panicle. Fawn papery "bracts" at base of each branch or else cluster at base of panicle.

This is spread to see it. Naturally they lie very close together so that it appears all flowers from main section. Pale bracts at each junction. Flowers have 6 stamens around a reddish style with 3 rounded sections



Photographed.

Flower about ½ length of section past flower.

1994 Nov 26th Flowering in APM block Stradbroke Sth. Gipp. H'way.
Oct 28th " in T'gon Sth Reserve
Nov 1 " " Casuarina " Fulham.
Oct 30 " " Dawson Water Reserve
1995 Apr 12th Growing in Drouin " "
Dec 12th " " Railway Reserve near Traralgon
1996 Nov 4th " " Gifford Rifle Range.
Dec " " Old Melb Rd, near Latrobe Rd, Morwell.
Dec " " Railway Reservoir Conservation Reserve, T'gon.
1999 Oct 16th " " Bonlac Wetland, Darnum

2000 Apr 11 Growing in Heyfield Wetland.
2004 Dec 1 " " Sandy Ck bush, Newborough.

Juncus pauciflorus Loose-flower Rush

1995 Apr 12" Growing Drouin Water Reserve.
1996 Dec " Old Melb Rd near Latrobe Rd, Morwell.
1999 Oct 16th " Bunlac Wetland, Darnum.

Juncus planifolius Broad-leaf Rush

1994 May 1. Plant growing in Austen's property near Darlamurla. Leaf flat. This plant ± 10" high. Identified by Andrew Pagent.

1996 Nov 7th Plant growing in Giffard Rifle Range.

Dec " " Old Melb Rd near Latrobe Rd, Morwell.

Dec " " Railway Reservoir Conservation Reserve, T'gon.

Juncus procerus Tall Rush

1995 April 18th Drouin Water Reserve
1997 Apr 5th Growing in APM Reserve – Grand Ridge Rd. Fruit present.
1999 Oct 16th " " Bonlac Wetland, Darnum.
2001 Aug 29th " " Newborough Bush.

Juncus subsecundus Finger Rush.

1996	Dec	Growing	in	Railway Reservoir Conservation Reserve, Traralgon.
1997	Apr 5th	"	"	APM Reserve - Grand Ridge Rd. Fruit present.
1999	Oct 16th	"	"	Barlac Wetland, Darnum
2002	Apr 27th	"	"	Heyfield Wetland.
	Nov 14	"	"	Railway Reservoir Reserve, T'gon
	Nov 30th	"	"	Toongabbie Wetland.

Juncus tenuis Slender Rush

1995	Dec 12	Growing on Railway Reserve near Traralgon
		Written up in sedges book
1996	Nov 7th	Growing in Giffard Rifle Range.
	Dec	" " Traralgon Sth roadside.
	Dec	" " Old Melb Rd near Latrobe Rd, Morwell.
2002	Oct 12th	" " Railway Reservoir Reserve, T.gon

Juncus vaginatus Clustered Rush

1996 Apr 21st Identified from ground opp. lot 213a. Rosedale
Written up in grasses & sedges book.

K.

Kennedya Prostrata Running Postman

Aug. 28th 1966 Flowering Chester Park
Sept 9th " " Beautiful specimens - very large - along Jeeralang Rd.
Nov 13th Flowering along Gormandale Rd in paddock. There were many seeds on these plants. Could this be because ground had been bulldozed and planted in pines?
Aug 13th 1967 Flowering along Callignee Sth Rd.
Sept 24 " " " " " " in profusion
Oct 22nd " " " " " " at Chester Park.
Aug 24th 1968 " in Gormandale Reserve.
Sept 15th " " " "
22nd " in profusion in APM Bush behind Caldwell's. This area cleared + planted in 1967.
1969 Aug 29th Flowering at Granite Rock. Beautiful deep red color.
Sept 4th Growing in profusion + thick with flowers in gravel bank on side of road at Wilson's Prom.
Sept 13th Flowering Longford, Rosedale + Home bush.
1970 May 25th Plants in bud along Lime Pit Road. Not too many buds on plants.
Aug 23rd Flowering at Gormandale.
" at Holey Hill Trig Pt.
Sept 13th " " APM Reserve.
14th " " Dutson Down Road
Oct 1 " new area Rosedale.
1971 Sept 19th " at Whitelaw's Track T.S.
Sept 3 " in Grampians
Oct 10th " in APM reserve. + Rosedale

1971 Nov 12th Flowering at Flynn.
1972 Sept 10th " " Rosedale
1973 Aug 5th " on APM to Tom's Bridge Road
1975 Aug 30th " at Mullundung
1994 Nov 26th Plant growing APM block Stradbroke Sth. Gipp. H'way
Oct 28th " " in T'gon Sth Reserve -
1995 " " " " Wonthaggi Heathlands.
Dec 12th " " " Railway Reserve near Traralgon

Kennedya rubicunda Dusky Coral-pea.

1969 Aug 29th Flowering on roadsides near Granite Rock. This flower was almost black where petals turn back. Ones in our garden are dark grey while ones in Wildflower book by Fuhrer are just pale red.

1970 Oct 17th Flowering on roadside at Briagalong.

1971 Sept 21st " in the garden.

1972 July 22nd Plant growing at Fairy Dell.

1993 Jan 30th Flowering in Errinundra area.

2001 Nov 3 Growing in Newborough Bush,

Kunzea (Peduncularis) Ambigua (White)

1966 Nov 20th Flowering Clark's Rd.
1967 Nov 26th " Gormandale. Long stamens, soft plant, flowers singly stalked alternate but making head around stems, much bigger flowers than ~~lencep~~ Leptospermum ericoides
Dec 29th Flower Thomson Valley Rd.
1969 Jan 1st " Anderson's Track
Sept 4th Flowering at Wilson's Prom. This looks like different species to above although cannot find any other species. This specimen is ambigua as Miss Galbraith book says common on Wilson's Prom.
Leaves ½" long broadest at tip, sharply accuminate, branchlets alternate, leaves all round stem. Flowers in clusters at end of branchlets - even very short branchlets. Approx 30 flowers to a cluster, flowers stalkless, 5 tiny white petals about ⅛" long, as flower opens stigma is pointed up but stamens are curled into centre. Flower about 1 cm across but when stamens are uncurled flower is 2.5 cm across. Bottom flowers of cluster open first. Ovary green. Very sweet scented fragrance. Whole appearance of branch is dense with flowers.
1970 Jan 18th Flowering along Senini's Track. Can not believe these are the same plants as at the Prom. These are as light and feathery as the Prom. variety is dense
Probably Leptospermum phylicoides
1970 Jan 1st Flowering at Licola.
24th " on Bruthen Road.

2004 Nov 3. Growing in Newborough Bush
Dec 1 " " " Sandy Ck.

Kunzea ericoides

I haven't got the information of the 5 species; but 2 of the species are labelled K. sp. (Scrubby) and K. sp. (Upright). The other species are *Kunzea leptospermoides, K. peduncularis and K. phylicoides.* All these species names have previously applied to this plant either under Kunzea or Leptospermum.

2005 Nov 5. In bud on Tom Simpson's bush block Trafalgar Nth.
Used CD rom which gives particulars although no key.
K ericoides ssp agg. is described with leaves 4mm wide with ~~flowers~~ leaves amongst & past the flowers (buds in this case).
There was also a species K peduncularis x K. phylicoides which seemed to suit other bushes in same area

Kunzea {muelleri {(ericoides) (ericifolia)} Yellow Kunzea

1970 Jan 2nd Flowering at Tamboritha Saddle. Small flower with open stamens not dense.

1971 Jan 30th Flowering at Howitt Springs and on the Mt Howitt Hike. Leaves fine, about ¼-½" long, bushes about 3-4ft high.

1974 Jan 29th Flowering at Buckety Plains.

~~1975 Jan Synonymous with K. ericifolia. [C Beauglehole & R. Parsons]~~

1992 Jan 26th Flowering on Bogong High Plains. Above name accepted by Herbarium

1993 Jan 31st Flowering in Errinundra N.P.

1993 July 27th Census 4th Edition 1993 says Kunzea muelleri Benth in Willis is now Kunzea ericifolia.

1994 Mch 4th Update to Census 4th edition — 4.2 — states K. ericifolia must now be restricted to south west W.A. and eastern alps species must go back to Kunzea muelleri

1996 Jan 20th K. muelleri. flowering on Hotham weekend - Think it was on Mt Loch.

~~1997 Jan 28th Flowering on much of Gelantipy~~

1999 Jan 23rd Flowering on Gelantipy weekend.

2000 Dec 3rd " " Sweetwater Ck. Reserve.

2001 Aug 27th Growing in Newborough Bush.

2002 Nov 30th " " Toongabbie Wetland.

~~2005 Nov 5 See under K. ambigua as I wrote them on wrong page.~~

11/12/07

Dear Bon,

Your Kunzeas reached Neville S. OK but he was very busy with his spring/summer field work so has had to put them in the press just for the moment.

I can tell that he is concerned that the specimens lack fruits. He said something about the possibility of valve height versus 'base' being diagnostic.

In the longer term, he said to tell you that there might be flowering time differences between species, so he would be interested in dates of flowering.

This week I will write to him & ask him if he agrees with you that 2 species are present.

Best regards,

Bob.

7 Leyden Street
Brunswick East
Vict 3057
Thursday 6 Nov 07

Dear Bon,

Bob sent ~~me~~ the *Kunzea* specs for my information + your letter.

I have had a brief look at Helmut's synopsis on *Kunzea*, so I understand your confusion. I think the best way to handle this is for you to list the differences you observe between the two "forms", back it up with specimens including bark and fruits (as well as the flowering specs). How these fit into the "formal" taxonomy isn't that important for the moment. We can always use: *Kunzea* sp. "Rosedale" and cite a collection in MEL.

I'm doing that for the two "Moondarra Parish" prickly tea-trees, how these tie into the broader picture will be someone else's job. I can't do that. Maybe the fruits differ between the two forms of Kunzea, as is true of ~~the~~ the two prickly tea-trees. Anyhow I'll have a look-see if you get hold of some fruiting specs from "The Plains".

Best wishes,

Neville S.

Specimens sent to Bob Parson
30. 11. 07

Traralgon Sth - Callignee Road Smothering type. 539
24.11.07 K. leptospermoides

Traralgon Sth. - Callignee Road Tall bushes 24.11.07
K. peduncularis. 240

Wirilda	K. peduncularis	21.11.07	J Topp.	241
Glengarry	K. leptospermoides	22.11.07	"	242
Valencia Ck.	"	23.11.07	"	243
Cowwarr	"	22.11.07	"	244
Stradbroke	"	21.11.07	"	245
Seaspray Rd Dutson	"	20.11.07	"	246
Heyfield	"	22.11.07	"	247
Newry	"	19.11.07	"	248
Munro	"	19.11.07	"	249
Fulham	"	19.11.07	"	250
Dawson Reserve	~~O Thompson~~ "	18.10.07	O.T.	251
Longford Rd Rosedale	"	29.10.07	O.T.	252
Traralgon Sth Smothering.	Seeds	18.12.07	O.T.	253
" "	Tal K. peduncularis Seeds	18.12.07	O.T.	254

K. pedunculosus in CD.
Leaves linear or narrowly oblanceolate
25 x 2 mm ± hairless alternate

Flowers to 10 mm. wide clustered in leafy
racemes in leaf bases 50-70 stamens
rounded petals
Snowy River 3 records in CD

K ericoides in CD
Leaves oblanceolate 25 x 4 mm ± hairless
alternate
Flowers to 10 mm wide clustered in small
groups in leaf axils, rounded petals
20 - 30 stamens

4/12/07

Dear Bon,

Your box reached here safely. ~~I was a bit~~ I assume that the specimens are fresh, unpressed & not fully labelled so I was a bit too frightened to send them to Neville Walsh, because the correct protocol down there is only to send donations more or less ready for incorporation i.e. at least dried, pressed & labelled.

So I decided to send them to Neville Scarlett – I hope he doesn't mind. He mostly works from home now.

All the best,

Bob.

(I sent them straight on unopened for speed).

Die naturlichen Pflanzen/familien

T T

✓ ~~Terricks Forest Road~~

~~9 - 9:30~~

but not

Kunzea ericoides complex.

2007 Nov 24 Collected specimens from Callignee South Road. The plants that were smothering everything else appear to me to be K. leptospermoides by Hellmut's key. The leaves of both specimens appear much the same although some are wider than others; but they also change in width, length from the younger branches to the older. I have assumed the leaves can be described as linear-elliptic as they are rounded at the apex although there is a very small point; but the margins are almost parallel. But as K. leptospermoides is the only one that has linear-elliptic leaves I suppose perhaps they may be linear-lanceolate with the broadest point usually about 1/3 below apex. K. leptospermoides has the longer pedicle but the calyx lobes are variable - some pointed some rounded at apex & in between. Stamens are incurved when flowers are fresh but tend to be straight - at least many of them - when older. I find it difficult to say stamens shorter than petals, they seem at some ~~some~~ stage - longer. Hard to count numbers but it seems to be between 25-30. Hypanthium is about 3 mm. but Hellmut only mentions this in 4 in the key. These shrubs were definitely multistemmed and invasive but whether by seed or roots I cannot say. One interesting feature is that many branches have further growth past the flowering section at flowering time. Young plants have red branches. The branches have a decided weeping habit when they get long enough. The bark peels off in long thick strips. The bark has a fissued affect as it has long lines down it.
The other species appears to me to be K pedunculatis. Leaves very similar - perhaps wider a little - but Hellmut does not mention pedicles for this species. but bark description seems to fit as bark comes off very thin & in short sections.

my biggest worry is that stamens do not appear to be recurved but they are certainly not longer than petals. There is no appearance of growth past flowers at flowering time. The plants we saw only had about 3 trunks & they were much thicker than the previous plants. Plants were about 5m tall about at least a metre taller than the others. As there were few of these plants they do not appear to be invasive. In the key in 6 Hellmut says this species has 50-64 stamens and that does not appear to be the case in our specimens. As Dr Parsons says it is hideously complicated. These plants were much more erect than what I think is K. leptospermoides. So is it K. peduncularis? I am sending the specimens to Dr Parsons in the hope that Neville Scarlett or Neville Walsh will identify them.

We have specimens from Callignee Sth Rd (2 species), Dowson & Longford that we collected & John Topp collected specimens from Winilda, Glengarry, Valencia Creek, Cowwarr, Stradbroke, Seaspray Rd Dutson, Heyfield, Munro, Newry & Fulham.

Posted specimens about 30/11/07

I have noticed that the midvein on the underside of the leaf is quite noticeable in what I think is K. leptospermoides but is ~~I~~ inconspicuous in in what I think is K. peduncularis

18.12.07 Collected specimens in fruit for N. Scarlett. There does appear to be more flowers in each group viewed in fruit in the tall variety.

Tall variety. The fruits appear to be bigger & the stalk longer but both is only a matter of degree & whether significant or not I cannot say. Otherwise to me there appears little difference.

4.9.08 Checked Kunzeas on Callignee Sth Road & tall species still had last year's seed capsules although they were empty. The invasive species didn't have any capsules.

P. O. Box 644
Traralgon
25.11.07

Dear Bob,

The last letter didn't take so long to get to you it was just that I didn't alter the date from the previous letter I wrote to you. You see I have it set out in the computer.

I agree with you about waiting. In the meantime John Topp has brought me specimens from 10 different areas around here. So I have decided to send them to you in a parcel while they are relatively new. I think most of them are the same species or whatever and just two of them are the different ones I mentioned. Still I am not at all confident about identifying them. Perhaps Neville Walsh may be interested in them. I have kept specimens for myself so that if there are any comments I will have the same numbers. I hope this is OK with you.

From Hellmut's key I find the plants are very variable as to size, etc. The numbers 239, 240, 251 & 252 I collected myself and some of the differences I noted were that no. 240 had less trunks(?) which were sturdier and the younger branches did not appear to be drooping. The plants were about 5metres tall which was taller then the other kind. There also did not appear to be any fresh growth from the ends of the branches at flowering time. The plants these specimens were collected from have been there from before the road was built I think and there are only a few of them. There does not appear to be any evidence of suckering. While the other species(?) 239 & 252 have crowded out everything else, 251 is certainly spreading. There is also much evidence of new growth at the end of branches at flowering time in each case. I can see some difference in the bark but not enough to be confident about it. The shape of the calyx lobes is variable from pointed to round at the apex. The length of the pedicles is also variable and not distinctive enough to use confidently. On the underside of the leaves I think the midvein of the plants that are smothering everything is quite visible while in the other specimens it is more or less inconspicuous.

As we are having so much trouble about unpublished names, etc. perhaps it would be better if I dropped the whole subject until Helmutt has published. I do not feel I can discus it with others if I cannot describe the plants and their differences. If you or Neville Walsh require any further information as to location of specimens, etc. I will be happy to work it all out. I am sorry to have caused you so much trouble.

Thank you for your help. It is always good to communicate with you. Thanks.

P. O. Box 644
Traralgon
~~19.10.07~~ 29.11.07

Dear Bob,

Thank you for the further information on the Kunzea. I did not mean to stir up so much effort by what I thought was a simple request. I have collected the information from you also from the Flora and Fauna Data Base and what I could from the Flora of Victoria. I realise that as the key has not been published I cannot circulate it amongst the botany group. So I have compiled a table of the different species with the information that I have. I am enclosing copies of what I have done. Could you please tell me if it will be OK to circulate this information. Of course there are many gaps in the information at present. We will fill in what we can with any specimens we get.

I have tried to identify one group of Kunzea at the Dawson Reserve and although the flowers are not out I have a tentative decision of *K. leptospermoides.* I will collect the Kunzea at Longford when we go there to count the orchids and also at Traralgon South. I will press specimens of the three areas and finally send you some. Just for interest.

I was very interested in the letter from Hellmut about the geotubers (whatever they are). Could you please explain the geotuber for me. Is it a tuber that develops on the roots? The local environmental officer at Vic Roads is trying different trials to get rid of the Kunzea on Longford road and I would like to show him that letter. The road at Traralgon South was carved through a standing pine plantation. The roadside was greatly disturbed during the removal of the pines and again during the construction of the road. However there has not been any disturbances since then to my knowledge. In January 1986 when we did a census of the road *K. ericoides* was on the list but it certainly was not dominant. So I am not sure how it has become so dominant now that it is smothering all else except on the edges.

I am also enclosing the results of our Diurus counts. Ithis is the last year for us to be in charge. Ken Harris has kindly taken over. His address is RMB 4318, Morwell 3840 and his telephone is 51223137. I think he also has an email address. I will try to get it for you.

I think the Kunzea at Longford is similar to the one at Dawson. John Topp has promised to bring me some specimens from Sale and further east when they are flowering. So we may eventually get somewhere.

Kunzea ericoides Complex

Feature	Leptospermoides	Phylicoids	Peduncularis	Sp. nov. 2	Sp. nov. 3
Bark on young branches	Longitudinally fissued & peeling in long leathery strips	fibrous, corky, not peeling. Longitudinally fissued	Peeling long irregularly oblong pieces several layers thick or peeling in short oblong to almost square pieces one layer thick	fibrous corky	Peeling in ~~leathe~~ leatherly pieces several layers thick
Leaves - shape	linear-elliptic, broadest at middle		linear - narrowly oblanceolate	oblanceolate, rarely obovate or linear-lanceolate. Broadest about 1/3 below apex, rarely 1/3 from base	
width			1 - 2 mm		
length			7-24 mm		
covering			hairy		
Flowers					
stamens	opp. sepals incurved/erect, shorter than petals; (20)25-32(35)		opp. sepals incurved/erect, shorter than petals or recurved/straight , many longer than petals; 50-70		opp. sepals incurved/erect, shorter than petals (20-)25-32
pedicle	(3-)4,5-4.5(-5.2)		3-6 mm		(0.5-)1-2.5-(3)
calyx lobes	acute to obtuse				blunt or rounded
width		10 mm			
petals		rounded	orbicular		
Shrub		multistemmed more or less suckering			
			3 records in East Gipps		

Replied & forwarded to ~~Alex~~ NS.

Robert Parsons

From: Neville Walsh [Neville.Walsh@rbg.vic.gov.au]
Sent: Thursday, 15 November 2007 3:46 PM
To: Robert Parsons
Subject: kunzea

Hi Bob

Regarding Bon's notes on Kunzea, I'm a little apprehensive about making this information too widespread, but the temptation of getting a better picture of what's going on out there overrides my apprehension.

I'll try to think of a way of asking Hellmut if he could cope with this view.

But I think Bon at least should make folk aware that this is a draft outline only - things could change.
And a few amendments:

I'd retract any reference to K. sp. 1. It just seems to muddy the waters in the Victorian context (I assume this info is not to be too widely circulated).

Kunzea ericoides sens. strict. is a New Zealand species.

Kunzea sp. 1 sens. Fl. Victoria, is predominantly K. peduncularis, but supposedly also includes some hybrids between this and (probably) K. phylicoides. I'm not too happy about this theory. Around the Snowy, there's just so much of this that it is very hard to believe it is a hybrid. I have what I believe to be 'good' K. peduncularis growing at home - originally from Beenak area - it's a tall shrub/small tree with broader, thinner-textured leaves than I see on the Snowy.

Bon's outline of K. peduncularis in the table suggests it has hairy leaves. I don't see this.

I imagine 'geotubers' are the equivalent of lignotubers in mallees.
Hellmut often has an idiosyncratic turn of phrase.

I collected some Tragopogon this morning with the intention of having it sequenced to check that it fitted the 'salsify' clade in the paper you alerted me to a while back.

All the best

Neville

Hi Bon, 16/11/07
I think this means we must wait to get the all clear from Neville W. before circulating anything, so that is what I told him.
Crikey that group seems to be infernally complicated!
Best regards,
Bob

Kunzea Ericifolia Complex

K. leptospermoides Leaves linear-elliptic (broadest point at about middle); Bark on young branches longitudinally fissured and peeling in long leathery strips. Also bark on young branches peeling in long often irregularly oblong pieces usually several layers thick. Stamens opposite sepals incurved/erect and shorter than petals. Stamens (20-) 25 - 32 (-35); growing in sandy soil at low altitude. Pedicle of individual flowers (3-) 4.5 -4.5 (-5.2 mm long; calyx lobes acute to obtuse.

K. phylicoids Bark on young branches longitudinally fissured and more or less corky (not peeling). Bark on young branches more or less fibrous; usually multi-stemmed shrubs and more or less suckering.

K. peduncularis Bark on young branches peeling in long often irregularly oblong pieces usually several layers thick or bark on young branches peeling in short oblong to almost square pieces usually a single layer thick. Stamens opposite sepals incurved / erect and shorter than petals or recurved /straight and many longer than petals (second bark and second stamens belong together. Stamens 50 - 64; growing at higher altitude and often associated with rocky slopes or outcrops. Last sentence applies to first bark, etc. On the CD the leaves are described as linear or narrowly oblanceolate 25 x 2 mm more or less hairless and alternate. Flowers to 10 mm wide clustered on leafy racemes in leaf bases , petals rounded. Distribution only recorded for 3 records in Snowy River area. I think this is recorded as K. sp.1 in Flora of Victoria where it is fully described.

K. sp. nov. 2 Leaves oblanceolate, rarely obovate or linear-lanceolate (broadest point usually about one third below the apex, rarely one third from the base). Bark on the young branches fibrous-corky; hypanthium 2 - 2.3 (-2.5) mm long.

K. sp. nov. 3 Bark on young branches peeling in leathery pieces; hypanthium (2.5-) 2.7 - 3 (-3.3). Bark on young branches peeling in long often irregularly oblong pieces usually several layers thick; stamens opposite sepals incurved/erect and shorter than petals and (20-) 25 -32 (-35). Growing in sandy soil at low altitude. Pedicle of individual flowers (0.5-) 1 - 2.5 (-3) mm long; calyx lobes blunt to more or less rounded. (It is believed this is the species from higher altitudes on rock beyond Healesville).

K. sp. nov. 1 is apparently not in Victoria but is described . Leaves linear-elliptic (broadest point at about the middle) bark on young branches smooth, not peeling; usually trees with one stem, not suckering.

K. ericoides is still described on the CD and in the Flora of Victoria but in the Census 7th edition it states that K. ericoides = K. leptospermoides, K. peduncularis, K. phylicoids, K. sp. (Shrubby) and K. sp. (Upright).

K. sp.1 Flora of Victoria description - Erect shrub to 3m high; branch tips drooping; bark fibrous to corky; young stems pubescent. Leaves alternate, linear to linear-lanceolate, 7 - 25 mm long, 1-2 mm wide, bright green, finely pubescent to glabrous, more or less flat; apex acute to acuminate; margins entire; petiole 0.5-1 mm long. Flowers white, 1, 2 or 3 in upper axils forming leafy racemes; pedicles 3-6 mm long; floral bracts absent; hypanthium glabrous, rugose; sepals green, reddish at base, triangular, 1-1.5 mm long; petals orbicular, c. 1.5 -2.5 mm diam.; stamens white, usually 50-70, 1-4 mm long; some shorter than petals; style 1.5-2.5 mm long; ovary usually 3-celled. Fruit 2.5-4mm long,, 3-5 mm diam., not woody, dehiscent by terminal valves.

West Gippsland Catchment Management Authority

West Gippsland
Catchment Management Authority

27 July 2007

Bon Thomson
6 Patrobus Crt,
Traralgon VIC, 3844

WGCMA:25752

Dear Bon,

Re: Noxious Weed Review Phase 3B Nomination Process

Thankyou for your nomination of Burgan (*Kunzea ericoides)* as part of the Noxious Weed Review Phase 3B.

The process for Phase 3B of the noxious weed review was endorsed by the West Gippsland Catchment Management Authority (WGCMA) board and assisted by regional Department of Primary Industry (DPI) staff. To date it has involved:

- An open public nomination process involving advertisements in local papers and via promotion through regional networks.
- Collation of twenty-two nominations for thirteen plants from individuals, community groups and agency staff.
- Coordination of a regional "technical reference group" comprising members from WGCMA community consultative committees, WGCMA operations team, DSE, DPI, Landcare and Shire.
- Preliminary screening and prioritisation of the nominated plants, by the technical reference group utilising a screening template form provided by DPI.

This prioritised "regional list" was endorsed by the WGCMA board and will be sent to Plant Industries Research Victoria (a research section of DPI) for further in-depth screening.

Unfortunately, our technical reference group learned through the process that Burgan could not be considered for inclusion on the noxious weed list. This is due to the fact that under the Catchment and Land Protection Act, the minister cannot declare a plant that is listed under the Flora and Fauna Guarantee Act, either as an individual or within a listed community. In this case, Burgan is a component of Central Gippsland Plains Grassland Community.

Should you have any queries regarding the list or our process, please do not hesitate to contact me, Phone: (03) 5175 7800.

Sincerely,

Yasmin Kelsall
Biodiversity Officer

BRANCH OFFICE
Corner of Young and Bair Streets
LEONGATHA 3953
Telephone: (03) 5662 4555
Facsimile: (03) 5662 5569

ALL CORRESPONDENCE TO:
PO Box 1374,
TRARALGON 3844
westgippy@wgcma.vic.gov.au
A.B.N. N° 88 062 514 481

HEAD OFFICE
16 Hotham Street
P.O. Box 1374
TRARALGON 3844
Telephone: (03) 5175 7800
Facsimile: (03) 5175 7899

Western Tyers
Friday 5th Sept. 08

Dear Ben & Ollie,

Good to catch up "in person" after so long! On the way back I went down W3 to the limestone quarry and checked the bryophytes. Very interesting, especially finding Asterella drummondii (liverwort). It is pretty common on the Basalt Plains but the only other place "in the hills" I've seen it is on the Aberfeldy River near Walhalla (also Omeo grassy Snow Gum country) (Ordovician Clays?). I'd forgotten how rich that area is in Eucalypts! About 10 species at least including "Fuzzy Box" E. baueriana, yet the Tyers Flats are good Wet Forest!

A good area for Kunzea as well, both the "forms" we talked about are there, the ± single trunked one by the river, the "heathy" one above the quarry.

I have an idea about the problem of Kunzea being on the "accepted list". Is it possible to stipulate that all Kunzea stock MUST be from local provenance only, NOT from any old nursery? There are good grounds to really emphasise that, given the situation you have reported. Too often people just use a species list and don't check on the origin of the seed/cuttings. Maybe a warning note in the Indigenous Flora & Fauna Assoc Newsletter, Vict. Nat and etc? Best not to leave it until botanic names get applied to the difficult taxa lurking there! Next time I go to Ballarat I'll check on what "someone" has planted along the Western Freeway near Wallace, down to close to Ballarat.

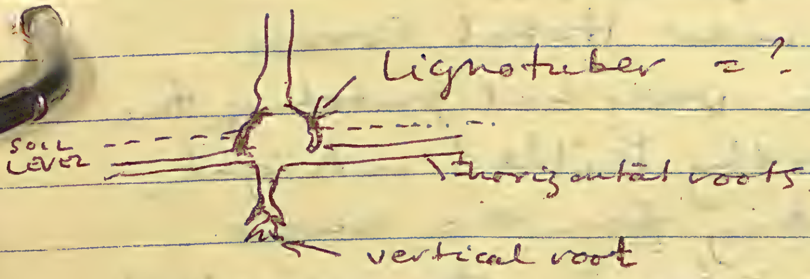
Nice day today, but pretty cold last night!

Best regards

Neville

7 Leyden Street
Brunswick East
Vict 3057
8 Nov 2007

Dear Ron,
Bob has sent me the Kunzea info, including your letter.
I haven't run into the term "geotuber" either but I do know what the roots of the Western Tyers Kunzea are like:



Occasionally the horizontal roots will produce "suckers", usually when the horizontal root is exposed or close to the soil surface.
If you cut down the main stem(s) there is a lot of resprouting from the swollen lignotuber. It also produces sprouts after a light burn, though the canopy leaves are not burnt.
The populations on our place are def. native but are very efficient in invading dense grass sward from seed → seedlings.
I'll see if I can work out where our "form" fits the spp. listed by Hellmut Toelken.
It's a very long-lived sp., unlike the tall Prickly Teatree which grows in similar habitats. That lasts about 35 years, then dies, while the Kunzea closes its canopy.
There's an area down river where it's on the

edge of an old burn – ? 1926 ? 1939
bordering a Beech Forest (patch). So it lives over 70/80 years probably. By the river Beech is beginning to invade under the Burgan canopy (+ Mountain Pepper & Coprosma) so without a fire Burgan areas would change to Beech. On the West Tyers it reaches about 400 m, above sea level (Christmas Creek Road). There's closed canopy Burgan at Seninis Picnic Area (you'd know that) – I don't know if it's the same as the "form" at our place.
I checked an area near Hotel Creek where Burgan was in a very hot patch of the Moondarra fire – mostly killed outright, with a few plants resprouting from the base. It's possible to kill our "form" with repeated fires, say a year to two years apart, before the sprouts from the base get over a metre high or so. I suspect the older plants are killed more easily but that's only an impression.
That's about all I know, pretty unsystematic info.

Best wishes
Neville S

ps. The Kunzea on the steep rocky dry slopes by the river might be a different sp. – I've never checked.

7 Leyden Street,
Brunswick East,
Vict. 3057
Tuesday 19th Feb '08

Dear Ron,

I've got somewhere in looking at the cultivated Kunzea spp. around the streets and lanes of Brunswick! There are two spp. involved : Kunzea "Sydney Road Church" (enclosed) and Kunzea "Around the corner", which is so close to the Western Tyers ("Morgan's Mill") so that I need to look further at that one. As you will detect, the "SRC" one has big fruits and a relatively long fruit stalk (+ sparse flowers). I think we can rule out "SRC" being the invasive sp ssp that is out on the roads, neither of your fruiting collections has fruits as big or stalks that long.

I took my sister and her ~~niece~~ daughter up to Western Tyers last week, on the way I got a copy of "The Nature of Latrobe". Congrats to the club and to the photographers including Ollie – the pic of Dawson is outstanding! Lots more Diuris in that spot than I remember – which is great. Mushroom Rock shot another amazing pic! So far David Meagher + my Baw Baw Bryophyte (South Face area) Survey, has recorded 193 spp.: 125 mosses and 89 liverworts + hornworts. 4 spp. new to Australia and 11 new to Victoria. I'm sure that's not the end of it, we haven't done much in the lower altitude rainforests as yet.

Best regards
Neville

P.S. "SRC" is probably K. leptospermoides, but I need to check with a specimen to be sure.

7 Leyden Street,
Brunswick East 3057
Monday 7 July 08

x + channelled midrib on the back of the leaf.

Dear Bon,

Just a letter about the Kunzea problem. I may have collected "the culprit" that is invasive on those grassland sites. At the MelbWater Picnic site above the Thompson Dam. there were a couple of planted Kunzeas which were still retaining capsules and seed on the 4th June last. The leaves of these plants were very channelled ("incurved") towards the tip and punctate ("spotty") on the undersurface. The bark was quite tough and not at all "papery" right to the base. I had a quick look through the collections you sent. and Prob "invasive" one looking at Hellmut's work I suspect it is Kunzea sp. nov. 2: Fibrous corky bark, oblanceolate leaves (broadest about ⅓ below apex). Unfortunately he has no flower details listed for this sp.

Anyway I've planted the seeds to see if the seedlings are the same as the Western Tyers Kunzea. I'll grow it on (in a safe spot!) to check the growth habit.

I might have mentioned that I'm looking at the Prickly Teatrees. I have some NZ Leptospermum scoparium growing at present to compare to the two Prickly Teatrees around W. Tyers + a strange one from Northern No 1 Mill site upstream of us, one from the Brisbane Ranges and one from Raglan north of Beaufort. I haven't got any Grampians seed yet, but

I've been promised some. So far there are obvious diffs in cotyledon size and shape: I'm going to plant them and see [illegible] how the growth form develops as well as "lignotubers".

I managed to get to the Lichenologists' meeting in Traralgon – as usual something came up and I had to go back a bit early – so couldn't get to see Alan McMahon or you. Next time, hopefully.

Best wishes
Neville S.

Kunzea Ericifolia Complex

K. leptospermoides Leaves linear-elliptic (broadest point at about middle); Bark on young branches longitudinally fissured and peeling in long leathery strips. Also bark on young branches peeling in long often irregularly oblong pieces usually several layers thick. Stamens opposite sepals incurved/erect and shorter than petals. Stamens (20-) 25 - 32 (-35); growing in sandy soil at low altitude. Pedicle of individual flowers (3-) 4.5 -4.5 (-5.2 mm long; calyx lobes acute to obtuse.

K. phylicoids Bark on young branches longitudinally fissured and more or less corky (not peeling). Bark on young branches more or less fibrous; usually multi-stemmed shrubs and more or less suckering.

K. peduncularis Bark on young branches peeling in long often irregularly oblong pieces usually several layers thick or bark on young branches peeling in short oblong to almost square pieces usually a single layer thick. Stamens opposite sepals incurved / erect and shorter than petals or recurved /straight and many longer than petals (second bark and second stamens belong together. Stamens 50 - 64; growing at higher altitude and often associated with rocky slopes or outcrops. Last sentence applies to first bark, etc. On the CD the leaves are described as linear or narrowly oblanceolate 25 x 2 mm more or less hairless and alternate. Flowers to 10 mm wide clustered on leafy racemes in leaf bases , petals rounded. Distribution only recorded for 3 records in Snowy River area. I think this is recorded as K. sp.1 in Flora of Victoria where it is fully described.

K. sp. nov. 2 Leaves oblanceolate, rarely obovate or linear-lanceolate (broadest point usually about one third below the apex, rarely one third from the base). Bark on the young branches fibrous-corky; hypanthium 2 - 2.3 (-2.5) mm long.

K. sp. nov. 3 ~~Bark on young branches peeling in leathery pieces;~~ hypanthium (2.5-) 2.7 - 3 (-3.3) mm. Bark on young branches peeling in long often irregularly oblong pieces usually several layers thick; stamens opposite sepals incurved/erect and shorter than petals and (20-) 25 -32 (-32). Growing in sandy soil at low altitude. Pedicle of individual flowers (0.5-) 1 - 2.5 (-3) mm long; calyx lobes blunt to more or less rounded. (It is believed this is the species from higher altitudes on rock beyond Healesville).

K. sp. nov. 1 is apparently not in Victoria but is described . Leaves linear-elliptic (broadest point at about the middle) bark on young branches smooth, not peeling; usually trees with one stem, not suckering.

K. ericoides is still described on the CD and in the Flora of Victoria but in the Census 7th edition it states that K. ericoides = K. leptospermoides, K. peduncularis, K. phylicoids, K. sp. (Shrubby) and K. sp. (Upright).

Bon – I was touched that dear old Neville went to a bit of bother – cheers Bob

Robert Parsons

From: Neville Walsh [Neville.Walsh@rbg.vic.gov.au]
Sent: Tuesday, 16 October 2007 10:50 AM
To: Robert Parsons
Subject: Fwd: RE: weedy Kunzea in Vic

Hi Bob
Finally have this response from Hellmut. I think his reticence to suggest a species name (published or ms) is not unintentional as I think he is very cautious about letting any misinformation escape before he publishes (and hopefully that will in fact improve matters).
But just maybe there's something of relevance here to Bon.
Regards
Neville

>>> "Toelken, Hellmut (DEH)" <Toelken.Hellmut@saugov.sa.gov.au>
>>> 16/10/2007 10:19 am >>>
Dear Neville,
Please excuse the long delay as I just returned from a long holiday in Africa.
However as you already indicated there is little one can do with a definite identification of the the "species", as it might also be a newly established hybrid, which could explain the apparent virulent nature.
However I expect it to be the species prevailent on the Gipsland plains, which I have seen spreading vigorously when disturbed and especially when graders have removed the aerial parts. Each individual geotubers, and each plant produces masses of these, will sprout vigorously, so that one could claim encroachment when it is really a management problem as usually it is associated with an imbalance of the ecology.
In other words one really would need to inspect the locality in addition to identifying the plant. These Kunzea species can become a pest if one does not consider their extensive production of geotubers.
I hope this provides some answer to your problem.
Regards, Hellmut

-----Original Message-----
From: Neville Walsh [mailto:Neville.Walsh@rbg.vic.gov.au]
Sent: Thursday, 6 September 2007 5:01 PM
To: Toelken, Hellmut (DEH)
Subject: weedy Kunzea in Vic

Dear Hellmut
I hesitate to ask you about Kunzea - I'm sure you get pestered too often about this and you may not be fully in a position to answer.
I've had an enquiry from a plant enthusiast in Gippsland who is concerned about the encroachment of Kunzea ericoides s.l. into native vegetation and threatening to out-compete several species that are regarded as threatened.
She appreciates there is more than one entity, and recognises a native and this 'weedy' taxon. Of course it should all become clearer if she sent us a specimen (which I will organise she do), but I wondered if in your experience of the group in Victoria, you had identified a weedy Kunzea. The area of concern to her is mainly the plains area between Warragul and Bairnsdale (south of the highway). If this 'pest' species has a name, it might just oil some wheels toward getting some sort of control over it. Undoubtedly it's native somewhere in Victoria, but the feeling is that it's behaving like it belongs elsewhere.
Sorry to trouble you with this information-poor request.
With best wishes.
Neville

Key to the Australian species of Kunzea sect. Niviferae

1. Leaves linear-elliptic to elliptic (broadest point at about the middle): 2

2. Bark on young branches longitudinally fissured and peeling in long coriaceous strips……*K. leptospermoides* F.Muell.

2: Bark on young branches longitudinally fissured and more or less corky (not peeling): 3

3. Bark on young branches smooth, not peeling; usually trees with one stem, not suckering (sQld, nNSW)…..*K. sp. nov. 1* **(APPARENTLY NOT IN VICTORIA)**

3: Bark on young branches ± fibrous; usually multi-stemmed shrubs and ± suckering…..***K. phylicoides*** (A.Cunn.ex Schauer) Druce

1: Leaves oblanceolate, rarely obovate or linear-lanceolate (broadest point usually about one third below the apex, rarely one third from the base): 4

4. Bark on young branches fibrous–corky; hypanthium 2—2.3 (-2.5) mm long…..***K. sp. nov. 2*** ~~5~~

4: Bark on young branches peeling in coriaceous pieces; hypanthium (2.5-) 2.7—3 (-3.3) mm: ~~6~~ 5

5. Bark on young branches peeling in long often irregularly oblong pieces usually several layers thick; stamens opposite sepals incurved/ erect and shorter than petals: 6

6. Stamens 50—64; growing at high altitude and often associated with rocky slopes or outcrops….***K. peduncularis*** F.Muell.

6: Stamens (20-) 25—32 (-35); growing in sandy soil at low altitude: 7

7. Pedicel of individual flowers (3-) 4.5—4.5 (-5.2) mm long; calyx lobes acute to obtuse….***K. leptospermoides*** F.Muell.

7: Pedicel of individual flowers (0.5-) 1—2.5 (-3) mm long; calyx lobes blunt to ± rounded……***K.. sp. nov. 3*** (I believe this is the species from higher altitudes on rock beyond Healesville referred to in Hellmut's note to Graeme Lorimer)

5. Bark on young branches peeling in short oblong to almost square pieces usually a single layer thick; stamens opposite sepals recurved / straight and no longer than petals. K. peduncularis (F.Muell.)

5: Bark on young branches peeling in short oblong to almost square pieces usually a single layer thick; stamens opposite sepals recurved / straight and many longer than petals…..***K. peduncularis*** F.Muell.

P. O. Box 644
Traralgon
16.7.07

Dear Bob,

Thank you for the article on the Rulingia. It is good to see such work being done. In the article I noticed that Burgan control works was undertaken. Earlier this year the local CMA asked for suggestions for plants that should be included on the weeds list. With tongue in cheek I wrote and suggested Burgan. I really did not expect it to be accepted but I did want to start discussion on Burgan as the species here smothers everything. The result was a very nice letter explaining that they could not consider it as it was included in the ecosystem for the protected Gippsland Plains Grassy Woodland. Now I have noticed in the census that *Kunzea ericoides* has been divided into 5 species. So I suggested to the CMA lady (Yasmin Kelsall) that we try to get the key to those five species so that we can identify the invasive species of Kunzea and perhaps get it treated as a weed and be sure it is not sold in nurseries.

Why I am explaining all this is because I hope you may have access to the key for the new species of Kunzea. I cannot even find out where it was published as the new names have all been in use for Burgan over the years.

As you will realise if we can positively identify the particular species we can stir the pot to more purpose and certainly intend to.

Hoping you can help us in this matter as I have not heard from Yasmin and don't know if she has been unsuccessful or has been too busy to act.

Regards

Bon

6/9/07

NGW 9 252 2310

Oh Bon — this is hideously complicated. The key is the work of Hellmut Toelken (State Herbarium of SA). He works at snail's pace & the key is still unpublished & so is strictly confidential. It is also pretty hard to use. Neville Walsh is going to contact him about your query; I will keep you posted.

Bon do you recognize more than one sort of Burgan in your area? — i.e. visually different ones? Is there an invasive one which looks different to a non-invasive one?

Oops! Hold everything. NW has just sent thro' everything you asked for!

I suppose the confidential bits are those to do with undescribed species. ~~The~~ It's OK to use the names that have been published. Cheers

Bob

Robert Parsons

From:	Neville Walsh [Neville.Walsh@rbg.vic.gov.au]
Sent:	Thursday, 6 September 2007 10:48 AM
To:	Robert Parsons
Subject:	kunzea stuff

Kunzea - Hellmut.doc (38 KB) Key to the Australian species ...

Hi Bob
Attached is a copy of Hellmut's draft key (now a couple of years old) and some correspondence between Hellmut and Graeme Lorimer which may or may not be of use to Bon. Please ask here to keep it under her hat.
Hopefully she'll be able to apply the key and hopefully the nefarious taxon will have a name which will make its management more possible.
In the meantime, I'll contact Hellmut and see if he can offer an opinion from afar.
Be warned, his ecological perspectives on these things were set it seems from his whiz around with David C and Peter de Lange (who is doing the analagous job on the complex in NZ where it is similarly convoluted).
I'm not sure I totally agree wtih Hellmut's notion of hybridisation - I find it hard to believe that the (to me) very distinctive thing around the snowy near McKillops Ridge is a huge hybrid swarm - this is Hellmut's contention.
I'll get back if I'm able to extract any more from HT.
cheers
n

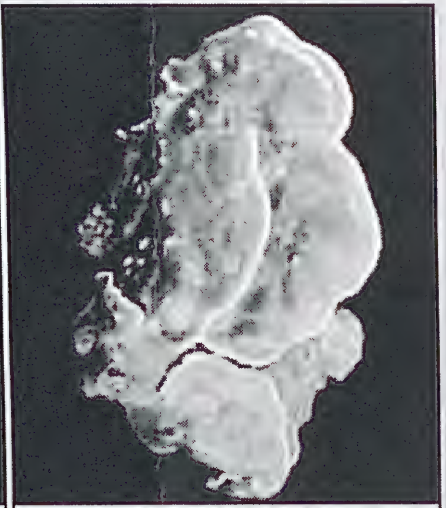
deficiency in planted eucalypts in north-west Victoria. Australian Forest Research 11, 185-190.

Stiles W (1958) Essential micro-(trace) elements. In 'Encyclopedia of Plant Physiology.' (Ed W Ruhland) pp. 558-614 (Springer: Berlin)

HABIT AND GROWTH FORM

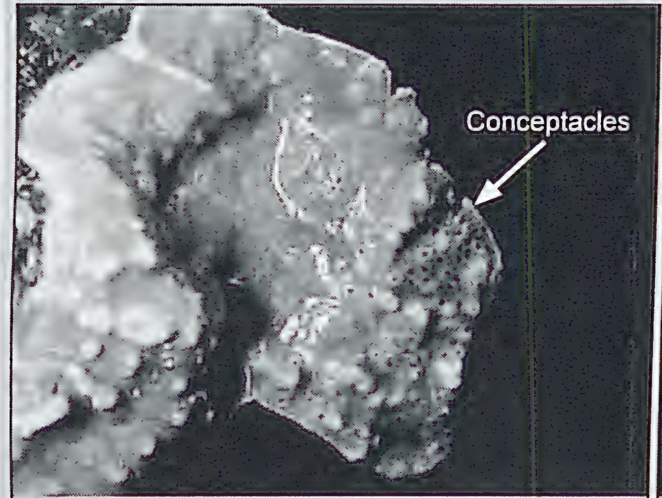
A Encrusting to warty plants 1x

B Warty plants 1.5x

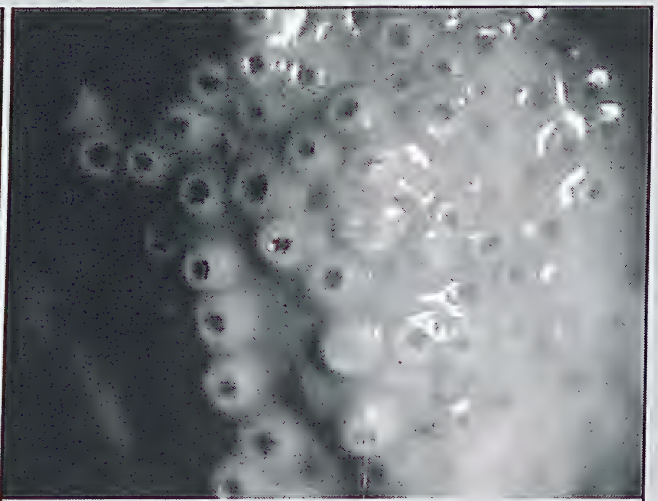


C Encrusting to layered plant 1.2x

REPRODUCTIVE STRUCTURES



D Multiporate tetrasporangial conceptacles 3x



E Enlarged view of volcano-like multiporate conceptacles 12–20x

FIELD DATA FOR CENTRAL NZ

OCCURRENCE

Collected at: 18 of 87 collection localities (Appendix 1)
Depth range: intertidal & subtidal to at least 15 m

FIELD CHARACTERS

Size: plants up to 105 mm across
Substrates: rocks, shells (e.g., paua, mussels, *Turbo* sp.), ascidians, sponges and other algae (e.g., *Ecklonia* holdfasts)
Growth form: encrusting to warty or layered (A–C)
Tetrasporangial conceptacles: multiporate, volcano-like (with a distinct rim surrounding a central sunken pore plate) (E)

IDENTIFICATION

Definitive identification requires sectioning and microscopic examination of the thallus and multiporate tetrasporangial conceptacle pore canals (see Tabular key). Male and female plants have uniporate conceptacles and are difficult to identify to species level.

COMPARISONS WITH SIMILAR SPECIES

Mesophyllum macroblastum has volcano-like multiporate conceptacles. ***Mesophyllum printzianum*** (Figure 12.15) and ***Synathrophyton schielianum*** (Figure 12.18) also show this feature, but differ in various reproductive and vegetative characters (see Tabular key).

FIELD NOTES

A highly variable species in growth form with volcano-like multiporate tetrasporangial conceptacles.

Dear Graeme,

For completeness, the name of the third species with > 50 stamens is K. peduncularis F. Muell.

I would recommend that you find yourself first populations of each of the species, so that one can get a feel for it and then one spots the hybrids on the periphery. Near Warrandyte I was shown some remoter areas with K. leptospermoides, but have details at home at present. This works in the field but nobody will ever be able to identify all specimens in the herbarium, but this also applies to other groups like Rubus etc.

I am sorry the revision should be out in a year or so, or I hope by then the New Zealand problems have been solved.

Hellmut Toelken
Senior Botanist
State Herbarium
Science and Conservation
Department for Environment and Heritage

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Email:toelken.hellmut@saugov.sa.gov.au

Postal Address:
Plant Biodiversity Centre
P.O.Box 2732
Kent Town, SA 5071

-----Original Message-----
From: Graeme Lorimer [mailto:Graeme@Lorimer.id.au]
Sent: Tuesday, 31 January 2006 9:02 PM
To: Toelken, Hellmut (DEH)
Subject: RE: Burgan revision

Dear Hellmut,

Your comments are going to be helpful, I think. I collected some flowering material in season in the expectation that staminal features would be important, so I can use your comments about numbers of stamens and pedicel vestiture as soon as I get time. Your warning about hybrid swarms is also very salutory, as it helps me understand the nature of the problem and warns me against expecting to confidently identify specimens. When I compile censuses of flora in various areas, I always annotate entries for taxonomically troublesome taxa (e.g. Calysegia sepium/silvatica) so that readers understand something of the complexities, and I certainly want to know, myself.

Despite your doubts, I was indeed interested in the taxon you mention to be beyond Healesville, because I also do work for the Council there (Shire of Yarra Ranges) and curate a census of vascular flora for the upper Yarra and Dandenongs region.

Regards,

Graeme Lorimer

From: Toelken, Hellmut (DEH) [mailto:Toelken.Hellmut@saugov.sa.gov.au]
Sent: Tuesday, 31 January 2006 16:38
To: 'Graeme Lorimer'
Subject: RE: Burgan revision

Dear Graeme,

I have been contemplating, but I don't think I will be able to help you if the area was disturbed for a long time because gold digging. The problem with classifying the seggregate taxa of Kunzea ericoides is that wherever these taxa meet, they hybridize freely and this is particularly pronounced in disturbed areas. There you will usually find a variation from the one to the other extreme (hybrid swarms) and identification is quite impossible.

Originally there seem to have been in that area a particularly narrow-leaved (almost linear) form with unusually short flower stalks and these and the main flowering axis are covered with short spreading hairs. This is Kunzea leptospermoides F.Muell. which seem to have been common on lower slopes along the Yarra River to Brighton swamps (near the present Botanic Gardens)where Mueller collected it in the early 1850's.

The plants with broader leaves with longer glabrous flower stalks extend their distribution through much of the lower foothills right to the coast of most of south-eastern Victoria. It has only a manuscript name.

While these two species have 25-30 stamens a third species with >50 stamens
per flower usually occurs at higher altitude and often associated with rock outcrops beyond Healsville, but will presumably not concern you.

I would be interested if you found a weedkiller to combat infestations as these plants not only sucker freely but each new plants develops a geotuber, which benefit from any roadworks etc.

This is all theory which, I fear, will be of little practical use to you.

Hellmut Toelken

Sent: Monday, 30 January 2006 4:54 PM
To: Toelken, Hellmut (DEH)
Subject: Burgan revision

Dear Hellmut,

I'm contacting you at Neville Walsh's suggestion, in the hope that you can help me discriminate better between taxa just east of Melbourne that have been included within Kunzea ericoides.

Do you have a key or any other written guidance about segregating the

taxa? If so, I would very much like to see it, please.

I work as botanist and ecologist for the City of Manningham, which is on Melbourne's ENE fringe. It includes Warrandyte, where burgan is a serious environmental weed, particularly as a result of past gold diggings.

Graeme Lorimer (Dr)

13 Kyamba Ct, Bayswater North, Vic. 3153
Phone (03) 8711 3454 or 0403 229 862

Kunzea ericoides

(Leptospermum (ericoides) phylicoides) (Burgan)

1967 Nov 25th Flowering at Gormandale. Tiny flowers with stamens slightly longer than petals & in clusters at leaf bases on common stalk.

1978 May 7th Flowering in Holey Plains S.P.

1994 Nov 26th Growing in APM block Stradbroke Sth. Gipp. H'way.

Oct 28th " " T'gon Sth Reserve

Nov 1 " " Casuarina " Fulham

Oct 30th " " Dawson Water Reserve.

" " " " R'way "

1995 Oct 25 " " Mt Heddrick

1997 Apr 5th " " APM Reserve – Girard Ridge Rd.

1991 Jan 28th " " much of Gelantipy weekend.

2005 Nov 5 See under Kunzea ambigua as I wrote up on wrong page.

Kunzea parvifolia Violet Kunzea

1990 Jan 4 Flowering at Mt Buffalo along road just down from Chalet. Plant spreading about 2ft high, flowers violet in small almost globular heads. on ends of wiry branches.

1992 Jan 25 Plant growing on rocky knob near parking area near Mitta Mitta River.

Kunzea pedunculanis x phylicoides

2005 Nov 5. In bud on Tom's Simpson's block at Trafalgar Nth.
On CD rom divisions of Kunzea ericoides are included. This species is described with leaves 2mm wide + picture shows flowers terminal on side branches with no leaves amongst or beyond flowers.

Lachnagrostis

(Agrostis) billardierei Blown Grass

2004 In grass folder I have A. avenacea with reservation it may be A. billardieri.
In Muelleria Vol. 14 2000 there is article 'Revision of Agrostis billardierei with key & descriptions to 6 species + varieties with maps for distributions

Tuffleaf PRODUCT TLR/118/6mm.

~~tegma~~ Lachnagrostis billardierei

(Agrostis billardieri)

Ellen states this must be that blown grass that lodges in fence lines round Inverloch swamps. Head blows away in one piece.

TLB/118/6mm.

Tuffleaf

Lachnagrostis filiformis
(Agrostis avenacea) Blown Grass

In grasses folder the following records are shown.

8/92 Rosedale Railway Reserve
2002 Nov 14 Railway Reservoir, Traralgon
Nov 30 Toongabbie Wetlands
2003 Mar 3 Morwell River Wetlands.

Lachnagrostis filiformis var. 1.

(Agrostis avenacea) Blown Grass.

1992 Aug Growing in Rosedale Railway Reserve west of station. Fine grass with panicle consisting of groups of spikelets on long-stemmed pedicles. 4 or more pedicles from one point on culm & then quite a space to next group. Whole effect delicate with drooping effect.

2001 Nov. Growing in Railway Reservoir Reserve, T'gon.

2002 Nov 30 " at Toongabbie Wetlands.

2003 June Name change in 7th Ed. Census.

Lachnagrostis scabra Rough Blown-grass.

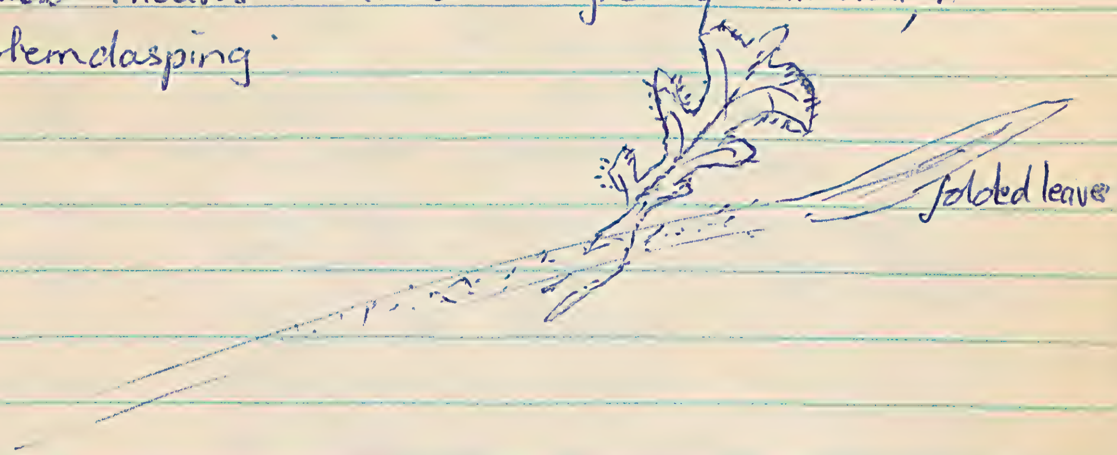
6 History of treatment of *Lachnagrostis scabra* - Rough Blown-grass - which was formerly *Agrostis rudis* and the relationship between it and *L. aequata* formerly *Agrostis aequata* which in 2005 was regarded as a synonym of *L. scabra*. There is a key and description to 9 *Lachnagrostis* species and subspecies of montane and coastal habitats with small spikelets (4.0 mm or less). Those with larger spikelets are dealt with elsewhere.

Muelleria
Vol 24-2006

These species are recorded in Flora of Vic at Wilson's Prom and Gippsland Lakes + sites further west on the coast. under the genus Agrostis.

* Lactuca serriola — Prickly Lettuce

1994 Oct 30 — Recorded for Dawson R'way Reserve
2002 Apr. 29 — " " Heyfield Wetland. Prickles on undersurface midvein of leaves + along margins. Prickles reddish-brown also very prominent on mid branch. Leaves auriculate + greatly divided, + stemclasping.



(hagenifera gracilis)

(hagenophera ✓ gracile) back to hagenophera

1970 Jan 18th Flowering at Senini's Track.

1973 July 14th. Plant growing at Toongabbie North.

1978 Jan. Spelling now hagenifera

[C. Beauglehole + R. Parsons]

1994 May 1. Plants with dead flowers growing on

Austen's property near Tarlamurla.

1994 Nov 26th Growing in APM block Stradbroke Sth. Gipp. Hway.

Oct 28th " " T'gon Sth Reserve

1995 Jan 15 " " Dargo weekend.

Oct 21 " " Mt Heddrick as well as 12/10/91.

2000 Dec 3rd " " Sweetwater Ck. Reserve.

2001 Aug 27th " " Newborough bush

2006 Sept 30 " " Senenis Track

(Lagenifera)
(hagenophora)✓ huegellii Coarse Bottle-daisy

1972 Jan 30th Flowering at Mt Howitt.
1994 Jan 15th " on Mt Erica & Mt. St. Gwinear.
1997 Jan 18th " " Mt Baldhead & Bentley's Plain.

(Laginifera)
(Lagenophora) ✓ Stipitata (Blue Bottle-daisy)

1967 Jan 14th Flowering opp. waterlily pond, Yallourn Nth.
" Feb 15th " in sphagnum moss on Wolfe's property
1968 June 9th " along Rosedale Rd.
Oct 13 " at Cowwarr.
Nov 3rd " Andersons Track.
1969 Jan 1st " " "
1973 April 14th " on Whitelaw's Track T'gon Sth.
1978 Jan. Add new species Lageni-fera montana [C. Beauglehole & R. Parsons]
1978 May 7th Flowering in Holey Plains S.P. Leaves wavy + hairy & yellow green - very common in some areas. Can be blue or white. Rays very short.
1993 Jan 31st Flowering in Errinundra N.P.
1994 Nov 26th Plants in APM block Stradbroke Sth. Gipp. Hway.
Oct 28th " " T'gon Sth Reserve.
1997 Jan 17th Flowering on Livingstone Ck & Bentley's Plain.
1999 Jan 23rd " " Gelantipy weekend. Identified from specimen brought back.
2000 Dec 3rd Flowering in Sweetwater Ck. Reserve.
2001 Aug 27th Growing in Newborough bush.
2002 Nov 23rd " " Holey Plains State Park.
2004 Apr 3 " " Colley's Rd. Block.
2006 Sept 30 " " Senenis Track

Lasiopetalum baueri Slender Velvet-bush

1972 Aug 30 Plant growing near Colton's Gorge. Leaves narrow about 1/4" wide, recurved edges. Flowers on stalks. Rather graceful shrub.

macrophyllum
Lasiopetalum (dasyphyllum)

1972 Oct 8th Flowering in Wirilda. Large shrub app. 5 ft or more. Leaves ovate, dark green above woolly below, veins & midrib with rusty hairs. Leaves with long stems and up to 5" long by nearly 2" wide. Flowers on underside of leaves, in clusters of 7 or 8. Calyx covered with rusty hairs. Inside flower cream waxy with 5 sepals & 5 stamens. Ovary light coloured, anthers very dark. Flower bracts 1 to a flower white ½" long thin but others leaf like spreading rusty 5 to a flowers.

1978 Jan. Synonymous with L. macrophyllum Rodd. pers. comm. [C. Beauglehole & R. Parsons]

Lastreopsis acuminata
Crenitis (shepherdii) Shiny Shield-fern

1967	Apr. 29th	South Cascade	
	30th	Morwell Nat. Park.	
1967	Sept 10th	" " "	
1968	Apr. 7th	Cook's Reserve.	
1969	Feb 9.	" "	
1970	Mch 10th	Waratah Bay.	
	Apr. 18th	Glen Nayook	
1972	June	Moonlight Creek	
	July 9.	Billy Goat Bend.	
	16	Tarra Valley. This fern is identified from the Polystichum - shield ferns by the fact that the pinnules are joined to each other by narrow division along main stem.	
	Jully 22	Fairy Dell.	
1993	Jan 31	Errinundra	

Lastreopsis hispida

~~Polystichum hispidum~~ Bristly Shield-fern.

1970 April 18th At Glen Nayook, growing on the trunk of a treefern but fairly close to the ground. Bristles on the rhachises.

Lawrencia
(Plagianthus) Spicata (Salt P.)

1967 April 1st Flowering near salt marsh at Loch Sport. Like a dock plant. Basal leaves toothed, flowers green, seed yellow then brown. Mostly in seed.

1991 Aug 22nd Plant in seed in salt marsh area in Lakes National Park at Loch Sport. Mr Willis identified.

1993 Feb 27th Many plants growing in Shallow Inlet Salt marsh. About 40 flowers but many more plants without flowers. Flowers look lovely especially from distance as the bracts are golden yellow with main stalk burgandy colour. Basal leaves spoon-shaped & green but bract serrated on long stalks in lower bracts. Upper bracts much smaller. Flowers at base of bracts giving plant a dense spike effect.

1996 Oct 12th Growing at Paradise Beach at 2nd pipeline in N.P.

Lawrencia squamata
(Selenothamnus squamatus)

1972 Aug 28th Growing near salt lake on way to Little Desert. Plant identified by Miss Galbraith who states it belongs to Malvaceae, called Plagianthus in Black.

A very rigid bush, much branched with tiny whitish green leaves about 1/8" long & clustered in groups along stems. Stems very rigid but not pungent.

Laxmannia gracilis

1970 Oct 11th Flowering at Heyfield Rifle Range.
Rarer plant than sessiliflora with long stalks to flowers, otherwise very similar.
Nov 25th Flowering at Briagalong.
1993 Nov 21st " " Dawson Reserve (R'way)
1994 Oct 30 " " " R'way Reserve
1995 Dec 12th " " Railway Reserve near Traralgon.
14 " " Stradbroke on APM Property.

orientalis
Laxmannia (sessiliflora) Dwarf Wire-lily

1970 Oct 1. Flowering in new area Rosedale.
Lovely deep pink flower with large calyxs. Stems wandering and branched leaves curved & narrow. under 1". Long wiry aerial roots.

1971 Aug 22 Plant in bud in Loch Sport area.
Identified by Mr Willis.

1972 Aug 28 Plant growing in Little Desert.
Plant with silky hairs long at base of each cluster of leaves & flowers.

Sept 10th Flowering at Rosedale.

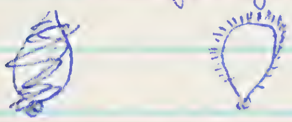
1995 Oct 28th " Wonthaggi Heathlands

2006 Nov 2nd In bud at T'gon Sth. Flora & Fauna Reserve.

(Ixiolaena sp). Leiocarpa panaetioides

(Leptorrhynchus panaetioides)

1972 Aug 29th In bud in Grampians or Little Desert. Stem very white; leaves dark green above but whitish below with recurved margins. Leaves in clusters along stem something like Hibbertia fasicularis. Flowering stalk appears to have had single leaves. Flowering stalk not very woolly. Bud orange. Tried to get achene & pappus & found pappus appears to be fringed & broad ~~long~~ wedge shaped.



Identified by Miss Galbraith

Phebalium Bilobum

Phebalium bilobum has been divided into 4 subspecies in Muelleria Volume 23, 2006. In the Census 2000 there was a major change of some of the *Phebalium* to other genera. *Phebalium bilobum* became *Leionema bilobum*

There is a key in Muelleria to separate these subspecies and detailed descriptions of each.

Leionema bilobum subsp. *bilobum* is from the Grampians eastern part including Mt. William, Mt. Difficult and Wonderland and Serra Ranges. It is described as :- margin of leaves serrate, base of leaves usually truncate, sometimes cordate or rounded, apex of leaf bilobed; hairs on stem 0.5-1 mm long. Considered rare. Common name probably same as Willis.

Leionema bilobum subsp. *thackerayense* is from the western Grampians with most collections on or near Mt. Thackeray. Described as :-margins of leaves smooth , not serrated or bilobed at the tip. I do not have a conservation code for this species yet.

Leionema bilobum subsp.*truncatum,* Common name Truncate Leionema, is found on Flinders and Cape Barren Islands and in northern and eastern regions (including some near shore islands) of Tasmania . Described as :- margins of leaves serrated, leaves 12 - 25 mm long, leaf length; leaf width at the broadest point 1.2 - 4 (7) mm; apex of leaf bilobed, shrub 0.5 - 2m tall.

Leionema bilobum subsp. *serrulatum* , common name Toothed Phebalium (?), is found in southern parts of the Eastern Highlands and the Gippsland Highlands, Victoria. The Club has records of it for Mt. Fatigue Road, South Gippsland and Grand Ridge Road between Foster/Boolarra Road and English's Corner and also Licola area. Described as :- margins of leaves serrated, leaves 16 - 52 mm long (longest leaf greater than 30 mm long) leaf length; leaf width at broadest point 4 - 7 mm, apex of leaf bilobed; tall bush, or small tree, to 4 m. This species was only declared rare in the last Census 2003.

Leionema bilobum

(Phebalium Bilobum) Truncate Phebalium

1971 Aug 30th Plant growing in Wonderland area in the Grampians & at Bellfield Lookout.
Plant about 2ft high with flowers in bud.
Plant rather hard to touch. Leaves dark about ½" to 1" long; wedge-shaped into a short stem.
~~Small point in middle of truncate edge & with small teeth on both sides.~~
~~Buds in groups with 3 buds.~~
Buds elongated and dark red ~~and~~ green.
Branches ridged. pale beneath end of leaf with two protusions on lobes - hence name bilobum. Edge of leaf slightly toothed and recurved. No stem to leaf
Branches very hairy. Flowers on long stalks. buds reddish from leaf axils

1982 July Plants growing in gully along Mt Fatigue Road South Gippsland.

1994 Feb 21st Plants growing along Grand Ridge Road between Foster / Boolarra Rd & English's Corner.

1994 Nov 7 Plants growing at Licola Weekend. Leaves not as bifid as they are sometimes but all else keys out.

2003 June Name change in 7th ed of Census.

Leionema lamprophyllum
(Phebalium lamprophyllum)

1973 Oct 28th Plant growing in Channel Country of Avon River.
1991 Oct 12 Plant in bud on Mt Hedrick up on the rocky area. Leaves had pinkish tinge. Plants about 2ft high.
1994 Nov 9th Recorded for Licola weekend -
2003 June Name change in 7th ed of Census
1999 In Muelleria Vol 12(2) 1999 Leionema lamprophyllum is divided into 3 subsp. with key + descriptions. P. 129.

Leionema . phyll

(Thebalium) ~~phillicifolium~~ phylicifolium

1970 Jan 25th Plant identified at the Cobberas but not in flower. Woody shrub about 1ft high, much branched. leaves about 1cm long, very dense on ~~stem~~ branch with short fine stems, oval at apex, margins curved under with main vein very prominent. leaves dark green above but whitish below.

1970 Jan 15th Flowering at Mt Useful.
Plants here were 3ft high and flowers were very bright yellow with stamens longer than petals. Flowers at end of branches among the leaves. Must have almost finished flowering as seeds had developed on all bushes but only found two flowers + 3 buds. Seeds very distinctive grouped together about 4 seeds leaf shaped into centre. at right angles.

When branch is picked aroma from leaves becomes very pronounced. like

1997 Jan 15th Recorded on Dargo weekend.

2003 June Name change in 7th ed. of Census.

*Lemna minor. Duckweed

1982 Jan 8th Collected plant from dam in bull paddock. Tiny plant about the size of Wolffia but it has a root; just one for this species. In Helen Aston's book page 250.

2000 Apr 11th Growing in Heyfield Wetland.

2003 Mar Recorded in Eel Hole Ck/Cemetery Conservation Reserve Management Plan

~~2004 Feb. 9 Flowering at new section of Morwell NP (Brandock Rd).~~

*Leontodon taraxacoides Hairy Hawkbit.

1994 May 1 Flowering in Husten's property near Darlamurla. All florets ligulate. Involucre bracts in more than 1 whorl. All leaves in basal rosette. Flora of NSW says inner florets achenes may be beaked or all not beaked. Pappus plumose with one or 2 rows of bristles. Leaves & lower part of peduncles covered with short 2-3 fid hairs. Flower heads nodding until mature.

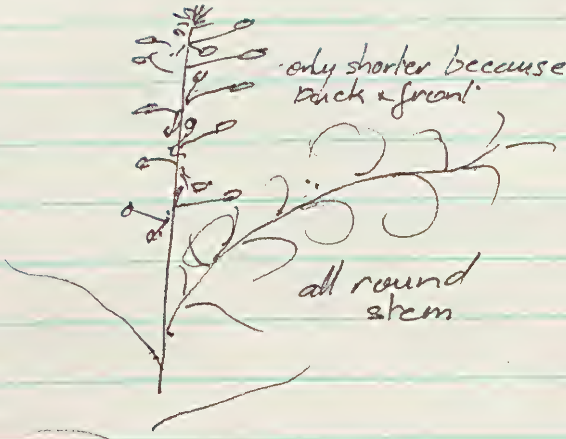
1994 Nov 26th Flowering in APM block Stradbroke Sth. Gipp. Hway.
Nov 1 " " Casuarina Reserve Fulham
1995 Jan 15 " on Dargo weekend.
1996 " 20th " " Hotham "
1997 " 18th " " Mt Nugong
2000 Apr 11th Growing " Heyfield Wetland.
2001 Aug 27th " " Newborough bush.
Dec 1 " " " " Sandy Ck.
2002 Nov 30th " " Toongabbie Wetland.
2004 Feb 9th Flowering in Morwell N.P. (Branock Rd) Single flowers on scapes. Backs of ligules purplish & involucral bracts - inner ring - brown tipped. Florets with 5 teeth. All florets not ligulate given some flowers the effect of a dense centre of tubular ~~flowers~~ florets. ~~Some~~ Some heads with just one row of ligulate florets. Scape not hollow.

LEONTODON
Same as Willis only name now becomes *Leontodon taraxacoides subsp. taraxacoides.*

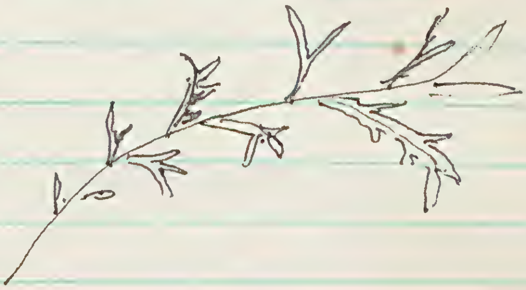
~~Muelleria Vol~~ 22
~~2005~~

*Lepidium ~~hyssopifolium~~ africanum. Common Pepper-cress
or. Rubble " "

1988 Nov 2 Plant in fruit. Plant about 1ft high with flower stalk 5cm long with stalked tiny oval fruits. Fruit stalks mostly about right-angled to stem. Seeds oval & not winged deep cream. Fruit flattened and opening lengthwise.
Leaves narrow linear, upper ones with fine hairs on margins especially towards base. Leaves curled back and alternate and appear glabrous

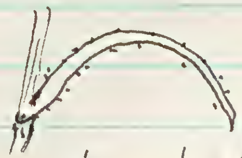


Lower leaves



Main stem ridged.

shape of upper leaves



attaches by about whole width to stem.

Plant growing in Dawson Reserve. (R'way)

1990 Nov. Judy Hoey informs us that botanist identified above plants as introduced species L. africanum. was L. hyssopifolium before revision. See Flora of Australia.

1994 Oct. Plant growing in Dawson R'way Reserve.

2000 Apr 11 " " " Heyfield Wetland.

* Lepidium didymum

(Coronopus didymus). Lesser Swinecress

11.9.89 Ellen collected on our farm near creek. Flowers & seeds. Leaves feathery but variable, pinnatisect with leaflets lobed or entire. Flowers from leaf bases

12.1.94 Dad brought back fruiting specimen from on flat on our property. Amongst the weeds growing in soil deposited by floods in Sept. 1993. Habit of fruiting raceme similar to Lepidium. Plant creeping & prostrate. Keyed out exactly.

2003 June Name change in 1st ed. of Census

2004 Oct 2nd Hey field Wetland.

The plant with a nasty smell was *Lepidium didymum* Lesser Swine's cress. Until recently this plant was *Coronopus didymus.* In Willis the difference between Lepidium and Coronopus is the fruit in Lepidium is dehiscent and less than 3 times as long as broad, while in Coronopus the fruit is indehiscent or splitting transversely into 1 or 2 seeded particles. Dehiscent is breaking out at maturity to release contents. Indehiscent is not opening in any definite manner at maturity. In the latest Census it is stated that *Coronopus didymum* is *Lepidium didymum* and refers to 1767 so it has gone back to an old name although *Coronopus didymus* was named in 1800-04.

Lepidium hyssopifolium Small Pepper-cress.

1995 Feb. 20 Plant in seed but with a few flowers on it.
Specimen collected down on flat on farm. Plant about 2'6" high and as wide.
Key in Flora of Aust. Stamens 2, at least the upper stem-leaves not lobed or dissected (some of the lower ones have 3 lobes); petals shorter than sepals; leaf-bases auriculate; pedicels hairy; silicula hairy and stems with fine short spreading hairs. Leaves linear-lanceolate. Silicula pedicels spreading & terete & hairy.

Shade
Lepidium pseudo~~hyssopifolium~~ tasmanicum Peppercress.

1992 Apr 25th Flowering in cemetry at Port Albert.
Flowers with 2 stamens, upper stem leaves not winged, petals shorter than sepals, leaf bases attenuate (I think). Book says pedicles shorter than silicula but illus. looks just like specimen. Cliff does not record it for outside the reserve but does record it for reserve.
Pedicles certainly had short erect hairs only visible under microscope not with eye piece for me.

2002 Apr 29th Growing at Cowwarr. Weir Reserve near bridge.

2002 Oct 2. Had letter from Ian Clarke, at Herbarium, to say specimen sent for distribution record from Cowwarr.
He says specimens need good fruiting samples with at least some lower leaves, as the presence of hairs on leaves is a key characteristic.

2003 June 23rd Wendy gave us specimen from a garden. We needed to use microscope to see hairs on pedicle & leaf margin. Only trouble with key is that fruit were only 2 mm although pedicle was 4 mm. There were a few claw-like hairs but perhaps Ian meant the basal leaves were hairy. The stem leaves had lobes.

Lepidosperma concavum

1970 Mch 28th Growing along Chessum Road at Rosedale in area of proposed reserve. Rush with flat broad leaves yellowish green, arranged in fan shape from base and concave in arrangement at base. Leaves as long as flower ~~spik~~ ~~panicle~~ stem. Plant about 18" high.
(Mrs Lyndon - L. identified.)

1992 Apr 25th Plants growing in Nooramunga Coastal Reserve near Port Albert. Base of broad stiff leaves arranged in fan shape!

1994 Nov 26th Plants growing in APM block Stradbroke Sth. Gipp. Hway.
1996 Oct 12th " " " Paradise Beach at 2nd pipeline in N.P.
1996 Nov 7th " " " Giffard Rifle Range.
23rd " " Old Port Trail, Nooramunga Coastal Reserve.

Lepidosperma curtisiae Sword-sedge

1994 Nov 26' Growing in APM block Stradbroke Sth. Gipp. H'way.

Lepidosperma elatius T.T. Tall Sword-grass.

1970 Mch 28th Growing along Chessum Road. Panicle very loose + branches stalked. Very compound about 15" long.

1987 April 20 Growing in reserve at T'gon South. Identified with Ellen's help. Panicle lax, culm solid convex on both sides. Tufted plant.

1994 May 1 Plants growing in Austen's property near Darlimurla.

Oct 28th Plants growing in T'gon Sth. Reserve

1996 Aug 31 " " Jindivick Landcare Area.

2000 Dec 3rd " " Sweetwater Cr. Reserve.

2001 Aug 27th " " Newborough bush.

Dec 1 " " " " Sandy Cr.

Lepidosperma filiforme

1994 May 1. Plant growing on Austen's property near Darlamurla.
Identified by Andrew Pagent.
Culm terete, glabrous, smooth. Leaf sheaths straw coloured to reddish. Leaves terete above, channelled near base.

1995 Dec 12 Growing on Railway Reserve near Traralgon.

Lepidosperma gladiatum Coast Sword-sedge.

1987 April 22nd Flowering on coast near steps at Golden Beach.
This plant was only 18" high & leaves very broad.
Think this is not usual height.
Panicle short, congested & widely pyramidal, subtended by broad bract. Culm 5-6mm.
Hypogynus scales at least 1/3 length of nut and very broad, thick with ciliate point. Culm with prominent central rib.
Good illustration in Black Vol. 1. p. 162.
Identified by Ellen.

1989 March. Excursion to Inverloch - Plant growing at Tay's Backwater.

1992 Apr. 25th Plants growing in Nooramunga Coastal Reserve near Port Albert

1995 Oct 28 Growing on Wonthaggi Heathlands

1996 Apr 25th Growing on Lot 213a Rosedale.

Oct 12th " " Paradise Beach at 2nd pipeline in N.P.

Nov 23rd " " Old Port Trail in Nooramunga Coastal Reserve.

Lepidosperma glabiatum   Coast Sword-sedge.

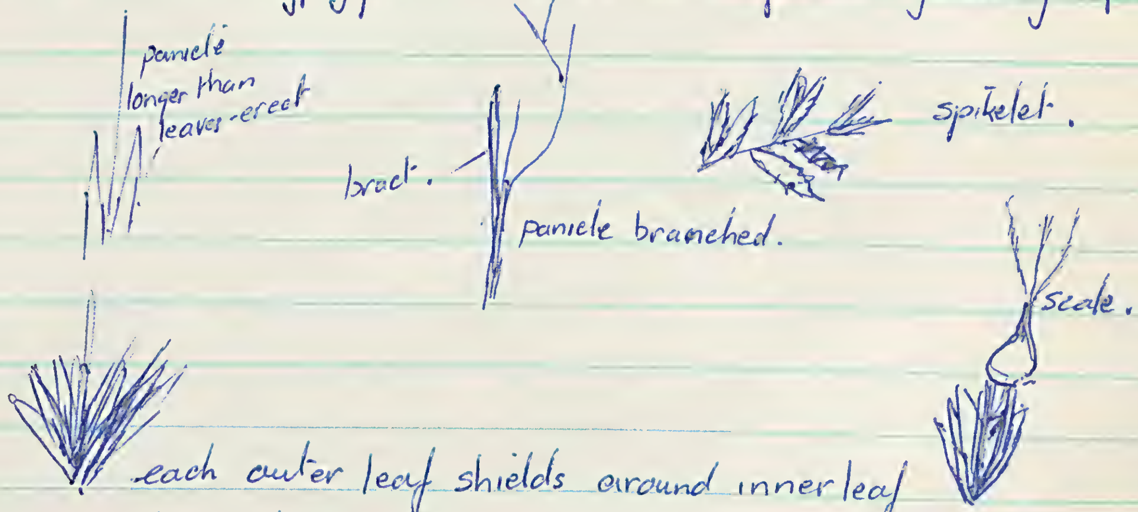
Lepidosperma laterale — Variable Sword-sedge

1973 Mch 11. Plant growing at Willung Sth.
Identified by Cliff Beauglehole

1975 Sept 6th Plant growing at McCormack's Bush. Hope identification is correct.

Leaf 5-6mm wide with fine teeth along margins. Flat on underside, slightly ~~concave~~ convex on other.
Panicle app 23cm long. Several spikelets from each bract. Spikelets of varying lengths. Nuts not present.
Flowers numerous on each spikelet. Bract shorter than most spikelets.
Panicle erect with short branches also erect.

1987 April 22nd. Tufted, flat combination of leaves & culms. Bristly & cutting on edges of culms.
Panicles longer than leaves.
Nuts with hypogynus scales with 3 spreading hairy tips



each outer leaf shields around inner leaf by about $\frac{2}{3}$.

Illust. in Garnet in Wildflowers of Wilsons Prom

1989 May 11th Plant growing on Hyland Way near Boodyarn.
Leaves arranged in fan shape at base.

1994 Nov 26th Plants growing in APM block Stradbroke Sth. Gipp. H'way
Oct 28th " " " T'gon Sth Reserve.
1995 Oct 10 " " " Mt Heddrick
1997 Apr 5th " " " APM Reserve - Grand Ridge Rd. Fruit present.
2004 Aug 31st " " " Newborough bush.

Lepidosperma longitudinale (Rush)

1970 Mch 25th Growing along Chessum Road. in area proposed for reserve. Plants approx 6ft high. Stem convex on both sides tall & soft - hollow with loose pith. Leaves about 1cm wide & shorter than stem. Panicle about 10" long and dark brown and densely crowded.
(Mrs Lyndon & I identified)

1987 April 22nd. Edges of Culm not cutting. growing at Giffard. Hypogynus scales entire, ovate & accutely acuminate but not ciliate at tip.

1994 Nov 26th Plant growing in APM block Stradbroke Sth. Gipp. H'way
1995 Apr 12th " " " Drouin Water Reserve
1996 Apr 22nd " " " Lot 213a Rosedale
2006 Nov 4th " " " Springsure area.

Lepidosperma. urophorum   Tailed Rapier-sedge

1996 Dec Growing Old Melb. Rd. near Latrobe Road, Morwell.

Leporella
(Leptoceras) fimbriatum) / Hare Orchid

1969 June 5: Specimen from Mr Peterson who received it from Mr McDonald who received it from Portland. Specimen too mature to photograph; ovary quite dilated.

Scape: 20 cm. with leaf bract standing out from scape.

leaf: 3 cm: inwards green above — reddish green below. curved upwards at edges — pointed to very fine tip. leaf encircles the stem of flower.

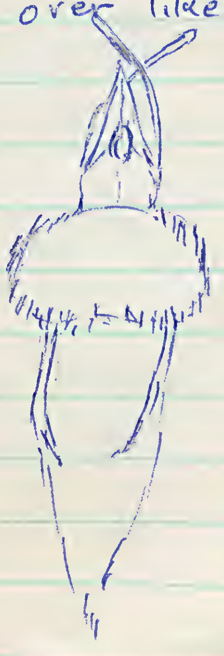
Dorsal Sepal: 1 cm-long curved forwards over the column Edges curved inwords to almost form a roll on each side.

Lateral Petals. 1cm erect but inclined to cross over dorsal sepal. Also rolled but just forming tube - spreading at tip

Lateral Sepals: 1cm pointing downwards almost touching ovary. Curved inwards but not as much as lateral petals and ending in a point.

Labellum: Very broad app. ·5 cm each way. yellow with deep maroon fringe along all sides. Lying flat and visible.

Column: Curved over like dorsal sepal.



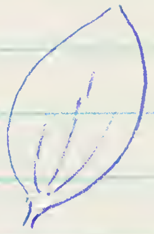
Ovary 1cm + long.

1972 Aug 29th. Flowering in Grampians.
1978 Jan. Synonymous with Leporella fimbriata
A.S. George Nuytsia 183 (1971)
[C Beauglehole + R Parsons]
1989 Spring Issue Ecos. Ants secrete an antibiotic substance from their metapleural gland that is antimicrobial. This substance keeps fungi spores from developing. It also stop pollen grains from developing too. However a few ant species don't have metapleural glands & one of these is important for the pollination of Leporella fimbriatus. Only the males (which are winged) of this species lack the glands & it is only they that bring about pollination by attempting to copulate with the orchid flower, to which they are presumably enticed by a scent resembling the sexual attractant of the female ant.

Leporella
(Leptoceras) fimbriatus[a] Fringed Hare-orchid

1971 Aug 31st Flowering on Rose's Gap Road at the Grampians.

Leaves app 2.5 cm long about 1.5 cm wide with 3 ~~or~~ 5 deep maroon veins sometimes in pairs with one smaller than the other but at other times singly. Similar to duck orchid leaves. Leaves with stem.



Flower Stalk 24 cm high with 2 flowers. Small leaf bracts on stem.
Each flower on stem about 1 to 1.5 cm long.

Flowers: Honey coloured.

Dorsal Sepal: Hooded broad app. 3 mm wide and app 8 mm long.

Lateral Petals: Almost 1 cm long, erect and curved towards base but flat towards apex giving slightly spoon effect.

Lateral Sepals: App. 8mm long dropping down and rolled.

Labellum: Wide almost .5 cm wide maroon colour in centre blending to honey at edges. 3 lobed but all in one plane with decidedly fringed edges.

1978 Jan Synonymous with Leporella fimbriata
A.S. George, Nuytsia 1: 183 (1971)
[C Beauglehole, R. Parsons]

Leptecophylla juniperina subsp oxycedrus

Cyathodes (acerosa) now juniperina

1969 Aug 16th Flowers + berries on same plants at Foley's Road - Wilson's Prom. Berries lovely crimson color, flowers white heath-like. ~~plant~~ leaves: pointed, pungent, recurved, dark green about ½" long.

2003 June In 7th ed. Census reference to Muelleria 15: 205 (2003)

1999 In Muelleria Vol 12(2) 1999 key to Leptecophylla from Vic, Tas. + N.Z P. 195.

Leptinella filicula.

Cotula filicula — Mountain Cotula

1970 Jan 15		Flowering along Licola Rd.
1971 Jan 17th		Flowering on Mt Useful. Leaves dissected into toothed segments. Flowers greenish on short stout stems. Found leaves with black dots that look like pattern. In "Wildflowers of Victoria" Mr Willis says this is a fungus infection with a disc fungus.
	Jan 30	Flowering at Howitt Plains + on Mt Howitt Hike. Some plants affected by fungus.
1972 Feb.		Flowering ~~at~~ Mt St. Gwinear
1994 Jan 15		" at Mt. Erica + Mt. St. Gwinear
1995 Jan 15		" on Dargo weekend.
1996 " 20		" " Hotham "

Leptinella reptans.

Cotula Reptans (Tiny Button)

1967 Feb 6th Flowering at Erica In slide of fan flower.

1970 Mch 7th Flowering along the shoreline at Waratah Bay. Tiny flowers on stems longer & more erect than leaves. Leaves dissected or pinnate. Whole plant very small.

1971 Jan 30 Flowering at Howitt Plains.

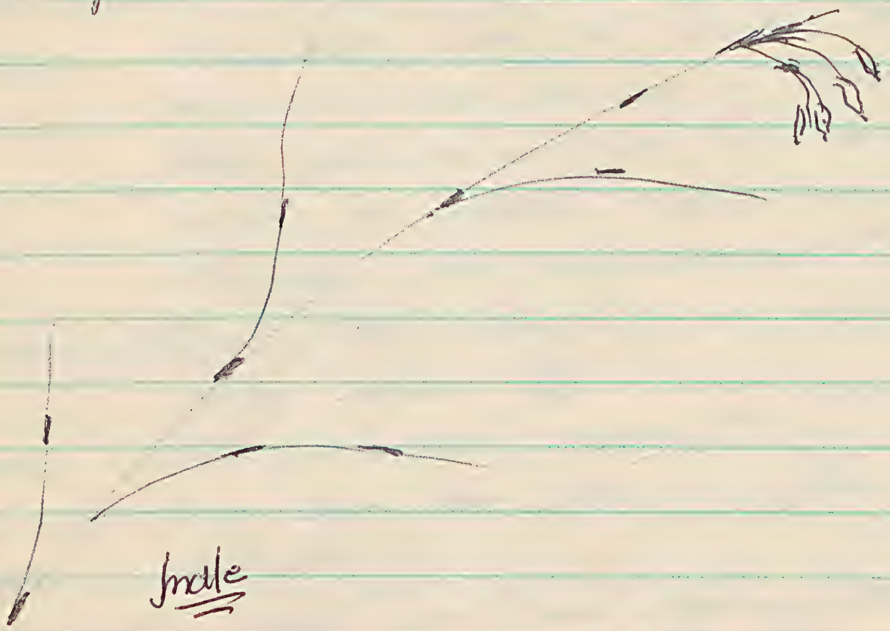
1994 Jan 15th " on Mt Erica

Oct 29th " (?) " Dawson Water Reserve

1996 Oct 12th " " Paradise Beach at 2nd pipeline in N.P.

Leptocarpus tenax Slender Twine-rush

1992 Apr 25th Flowering in Noorurunga Coastal Reserve near Port Albert. Also grows very profusely in Holey Plains. Plant does not appear to divide except from main stem. Greyish stems with dark brown sheathing bracts at intervals along stems, bracts at each junction of main stem. Maybe older plant would branch on side stems from bracts.



Separate male + female plants. Male flower with long pedicles (white) with dark bracts + very drooping

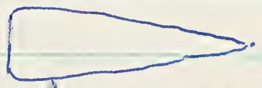
1994 Nov 26th Plants in APM block Stradbroke Sth. Gipp. Hway.

1983 Nov 3 Recorded at Wilson's Prom.

Leptoceras menziesii

(Caladenia) Menziesii (Hare)

66. Oct 8th Flowering along Callignee Sth road just past Chester Park.

Dorsal Sepal broad hooded over column blotched with red.
Lateral Petals " dark red erect.
" Sepals White broad narrowing down to point
Labellum - lateral lobes ½ way red outside. Red stripes on both lateral lobes but not on centre lobe.
Yellow cali on mid lobe. Cali ~~to~~ stalked at back reducing to stalkless at front.
Mid lobe white, edged with red. Tip curled right under.
Column. Short, lobed, yellow with red markings, lobes or wings white
Leaves - fluted, elongated, approx 2". 
Varying from dark green to yellow green.
Scape - 5 inches
Labellum (cent). Upright for ½ way forming pitcher with dorsal sepal.

1967 Sept 24th In bud near Ridgeview Stud. (Barnet)
Oct 25th Flowering along Clarke's Road. This is first time we have found this orchid here. Mr Marshall found it first.
Oct 27th Flowering along Callignee Sth Road where soil had been disturbed near drain along edge of road.

1971 Oct 25th Flowering at Reid's Corner.
1975 Oct + Nov 2 " " Goodwin Rd + Anzac Rd. in Mullungdung Forest

Leptomeria aphylla. Leafless Currant-bush

1971 Aug 30 In fruit in the Grampians.
Branches round with short branchlets about 3 mm long or were they stems of currants already fallen.
Currants green about 3 to 4 mm long oval Photo Flowers + Plants of Victoria.

1972 Aug 28 ~~Flowering~~ In fruit in the ~~hall~~ Gollon Gorge in the Grampians. Fruit tasted like sour grapes but not unpleasant.

Aug 28" In Little Desert with fruit.

Leptorhynchos elongatus   Lanky Buttons

1994 Nov 26. Flowering in APM block Stradbroke Sth. Gipp. H'way

Nov 1 " " Casuarina Reserve Fulham

Leptorhynchos (linearis) nitidulus

(Rutidosis leptorrhynchoides) (Button Wrinklewort)

1966 Nov 20th Flowering along road at Cowwarr.
1969 Jan 1st " Anderson's Track
Sept 27th " at Glenmaggie
Nov 2nd " " Briagalong
1970 Oct 11th " " Heyfield
See letter N. Scarlett 2nd March '84 for correct name as above. Also specimen in Dr. Parson's file.
1994 Oct 30 Growing in Dawson R'way Reserve.
2003 June Name change in 7th edition Census
2006 Oct 29 John Topp brought specimen from Munro railway reserve. Main difference from other species in our area appears to be the leaves & the outer bracts. Leaves are glabrous to sparsely arachnoide especially on lower surface (upper surface was quite arachnoide – my comment). Jean G in her book says outer involucral bracts entire & glabrous on outer surface but long white hairs on inner surface – I suggest these hairs protrude & could look like a fringe if I am not careful. Outer bracts appear tan to me although books say orange. Other species around here have transparent bracts with brown or orange tips according to books. Cypselas (seed) is narrowed near apex, minutely scabrous-papillose. Be careful when counting pappas that I have bisexual flowers and female flowers have less bristles.

Leptorhynchus squamatus Scaly Buttons

1971 Jan 30 Flowering at Howitt Springs. Whole plant about 6" high. Leaves at base with 3-4" of stem without leaves before flower. Over the last inch the scales on the stem are quite noticeable although they do continue more sparsily down the stem. Leaves about ½" long lanceolate tapering to branch no stems, lightest underneath almost white.

1972 Aug 2?th Flowering at Mt Arapiles

1994 Nov 1. Flowering in Casuarina Reserve Fulham
Oct 30 " " Dawson R'way Reserve.
1995 Jan 15 " on Dargo weekend
Oct 28 " " Wonthaggi Heathlands
1996 Jan 20th " " Hotham weekend
1997 " 18th " " Mt Baldhead
1999 " 23rd " " Gelantipy weekend. Identified from specimen brought back.
2006 Checking against L. nitidulus but outer involucral bracts translucent with dark golden at tip, margins densely long ciliate. See notes under L. nitidulus

Leptorrhynchus Tenuifolius (Wiry Button)

1966 Sept. Flowering Clark's Rd. Very small buttons
1967 April 16th " " "
1968 Nov 10th " " "
1970 Jan 1st " at Tamboritha Saddle
24th " at Wulgulmerang.
1971 Jan 30th " at Howitt Springs and on Mt Howitt Hike. These were Scaly Buttons L. squamatus.
1972 Jan 30th Flowering at Howitt Springs.
1973 Mch 11 Growing at Willung Sth
1985 Sept 28th Flowering at Glenmaggie Weir. These plants up to 2ft tall and branched. Much taller than ones we are used to. Think this identification is right because pappus bristles are between 4–7. (measured) whereas L. squamatus has 5–16. Leaves were up to 3" long at basal tuft, revolute margins very tiny. Send specimen to Dr Parsons for identification as not recorded for S.
1993 Mch 11th Jodie Hoey reports this plant growing along Henderson's Road Sth/East of Toongabbie. Herbarium interested in this plant.
1993 Mch 13th Collected specimens for Dr Parson's at above sight
1995 Dec 12th Growing on Railway Reserve near Traralgon
1997 Jan 18th Flowering on Mt. Baldhead.
2000 Dec 3rd " " Sweetwater Ck. Reserve.
2006 Checking against L. nitidulus. Involucral bracts are translucent (according to books) with brown tip & margins with dense, spreading, cottony cilia. See other notes under L. nitidulus

Leptospermum brevipeds   Slender Teatree

1970 Nov 25th. Flowering at Briagalong. This is a very lacy bush up to 5ft high. The white flowers are small and on stalks. The whole plant tends to have a slightly drooping affect. Leaves are small and not very close together and are sometimes red.

1992 Jan 25th Plants growing on rocky knob near parking area not too far from Angler's Rest on Mitta Mitta River.

2001 Dec, Growing in Sandy Ck bush, Newborough.

continentale

Leptospermum (~~Juniperinum~~) (Manuka)

1967 Oct 1st Flowering in T'gon South Reserve
13th " at Labertouche
Nov 25th " " Anderson's Track
1968 Jan 28th " " Wolfe's Swamp
Aug 24th " amongst young pines past end of Cochrane's Lane
Nov 10th Flowering along Clarke's Rd
1969 May 24th " at Cape Paterson almost on seashore.
Sept 4th Flowering at Wilson's Prom.
Sept 13th " " Longford
21st " " APM Reserve.
1970 Jan 18th " " Seninis Track.
1969 Dec 15th " along Jeeralang Rd.
1970 Mch 7th " around Waratah Bay & nearby heathlands.
Apr 25th Flowering along road to Venus Bay.
Sept 13th " " APM. reserve
1971 Aug 29th Plant growing in Grampians, do not remember any flowers
1972 Jan 30th Flowering at Mt Howitt.
Feb. " " Mt. St. Gwinear.
1973 May 13th " " Rosedale
April 21st " " Whitelaw's Track T.S.
Aug 25 " " Boola Boola

1994	Nov 26th	Growing	APM block Stradbroke Sth. Gipp. H'way.
	Oct 28th	"	T'gon Sth Reserve
	Oct 30	"	Dawson Water Reserve
1995	Apr 12th	"	Drouin " "
	Oct 28th	"	Wonthaggi Heathlands
	Dec 12th	"	Railway Reserve near Traralgon.
1997	Apr 5th	"	in APM Reserve – Grand Ridge Rd.
1999	Jan 23rd	"	" Gelantipy weekend Identified from specimen brought back
2000	Dec 3rd	Flowering	in Sweetwater Ck. Reserve.
2001	Aug 27	Growing	in Newborough bush
	Dec 1	"	" " " Sandy Ck.
2004	Apr 3	"	" Colley's Rd. Block
2006	Sept 30	"	" Senenis Track
	Nov 4	"	" Springsure area.

Leptospermum emarginatum.

1973 Oct 28th: Plant growing in Channel Country of Avon River

Leptospermum glabrescens Smooth Tea-tree

1991 Jan 27th Flowering at Little River Falls near Gelantipy

Leptospermum Grandi~~flora~~folium

1967 Feb 5th Flowering at Erica. Beautiful big flowers. Leaves sometimes decidely red. Flower also has red backs.

1970 Jan 25th Flowering at the Cobberas.

1971 Jan 17th " " Mt Useful. The buds of this plant are as woolly as the seeds of the woolly teatree.

Jan 30th Flowering at Howitt Springs.

1972 Feb. " " Mt. St. Gwinear.

1973 Dec Plant growing at Mt Baw Baw

1983 July 23rd Plants with seed capsules growing on Tanjil River bank near water race area. Leaves glaberous above but white felted beneath. Seed capsules very woolly, ~~calyx~~ capsule glaberous on apex, calyx also very woolly and persistant. Leaves broad (for teatree) 8mm x 3cm broadest towards 2/3 up but pointed at apex with recurved edges.

1999 Jan 23rd Recorded on Gelantipy weekend.

2005 Jan 24th Members brought back specimen from the Errinundra weekend.

Leptospermum Laevigatum (Coast)

1969 May 24th Flowering at Cape Paterson.
Plant with greyish look.
Aug 26th Flowering at Wilson's Prom
1973 Aug 5th " on APM to Tom's ~~Cap~~ Bridge Road.
1978 Jan. Mallee populations regarded as separate species — L. coriaceum (F. Muell. ex Miq.) [C. Brouglehole & R. Parsons]
1994 Nov 26th Flowering in APM block Stradbroke Sth. Gipp. H'way.
1995 Oct 28 " " Wonthaggi Heathlands.
1996 Oct 12 " Paradise Beach at 2nd pipeline in N.P.

Leptospermum lanigerum (Woolly)

1966 Nov 13th Flowering on the Gormandale Road.
1967 Nov 4th " Wolfe's swamp.
1968 Apr 15th Found seeds of plant. The seed pod. although empty of seeds was still covered with a woolly skin; looks almost like a pussy willow; beautifully soft + woolly cover almost covering top of seed box. Top split into five points to allow seeds to escape. Leaves blue green + very soft, small, pointed opposite at right angles. Whole effect beautiful.
1969 Oct 18th Flowering at Rosedale
1970 Jan 15th Seeds on plants at Seneni's Track
1994 Nov 26. Flowering in APM block Stradbroke Sth. Gipps. H'way.
1997 Oct 25th " at Labertouche. Distinguished from <u>L. grandifolium</u> by small leaves + a little smaller flowers.
1991 Jan 28 Recorded on Gelantipy weekend.
1999 Jan 23rd " " " " Identified from specimen brought back.
2005 Jan 24 Members brought back specimen from the Errinundra weekend.

Silky Teatree - Leptospermum Myrsinoides

1966 Odd flowers August. (early)
Sept 9th Plants with many flowers.
~~Oc~~ Nov 6th Still flowering on Clark's Rd.
1967 Oct 7 Flowering in A.P.M. reserve
We observed wasp, beetle, jack jumper + sugar ants all investigating flowers.
Oct 13th Flowering at Labertouche
1968 Aug 18th " " Coramandale
Sept 28th " - Dutson Downs Beautiful big flowers covering whole plants - sparkling white Also found one bush the most beautiful pink about 9ft high.
Nov 3rd Flowering at Moondarra
1969 May 18th " along roads to Willung South.
Sept 27th " at Cellivndale
Oct 12th - Tynong North
1970 Aug 9th " in A.P.M. reserve.
Sept 13th " " "
Oct 1 " new area Rosedale
11th " at Heyfield.
1971 Oct 10th " at APM reserve also flowering at Dutson Downs a week before ~~&~~
" at Rosedale
Oct 21st " at Reid's Corner.
1973 May 13th " " Rosedale
Aug 4th " " APM reserve
Aug 25 " " ~~Buda~~ Buda
1975 Aug 30th " - Mullundung.
1988 Sept. 24th " " Harmer's Haven near Wonthaggi on the coastal dunes + just back behind. These plants were very hairy compared with usual form of Silky Teatree. Ovary apex pubescent but calyx +

sepal lobes quite hairy. Leaves similar shape & size to usual form but quite greyish due to hairs on both surfaces. Flowers sessile and white.

1994 Nov 26th Flowering in APM block Stradbroke Sth. Gipp. H'way.
Oct 28th " " T'gon Sth Reserve
1995 Oct 28th " " Wonthaggi Heathlands
2001 Nov 3 " " Newborough bush.
2002 Nov 23rd " " Holey Plains State Park.

Leptospermum myrtifolium.

1970 Jan 25th Flowering at the Cobberas.
1972 Jan 10th " " Mt Howitt
1987 Nov 10th Plants growing south of Holmes Plain along a watercourse along old road.
1989 Jan 14th Flowering at Wulgulmerang.
1997 " 18th Growing on Livingstone Ck Track & Mt Nugong.
1999 " 23rd " " Gelantipy weekend. Identified from specimen brought back.

Leptospermum obovatum River Tea-tree

1973 Mch 17th Collected at Lake Tali Khan.
Plants with young seed capsules calyx as big as the developed seed capsules.
Seed capsule opens early by segments bending back at base , 5 segments.
Apparently calyx tube + sepals glabrous but I think they could be warty.
Seed capsule almost sessile + imagine flower would be sessile as place where calyx was could account for space on seed capsule. Flowers singly at leaf bases.
Leaves about 1 to 1.5 cm long, margins entire, narrowly obovate glabrous on both sides. Leaves tend to roll back at apex.

Aug 18th Flowering at Stoney Creek. Flowers sometimes white + sometimes pink. Very small seed capsules. Flowers sessile with long thin pink to calyx.

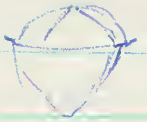
1973 Oct 28. Plant growing in Channel Country of Avon River.

1993 Jan 30 Plant growing in area between Club Terrace + Combienbar

1993 Feb 13 Plant growing along Tanjil River near Dam Wall.

Leptospermum ~~(nitidum)~~ turbinatum Shining

1971 Aug 31. Not flowering. Plants at Bellfield Lookout. Seed pods very rounded - 5 valved



no stem.

Leaves. 3/4" long by 1/4" wide, ending with point but not pungent. ~~Sh~~ Same colour on each surface, smooth & shining. Many leaves close together.

1972 Aug 28th Plant growing in Little Desert.

29th Flowering in Grampians.

Leptostigma replans

(Coprosma replans) Dwarf Nertera

November 2002. This species is in Willis as *Nertera replans* in the Flora of Victoria as *Leptostigma replans* & in the Census 2000 as above.
Ken Harris brought it to us as a new record for Morwell N.P. and it is not recorded for T24 either. So sent specimen to Ian Clarke on 29/11/02. Ken collected his specimen on 29.10.02. It was very hairy with long hairs & had flower & fruit on specimen.
Identification confirmed by Ian Clark as new distribution record - Ian is at Herbarium.

2003 June Name change in 7th ed of Census.

Leptostigma reptans

Nertera reptans. Dwarf Nertera.

1977 Nov 18th Plants flowering on roadside along Milne's Rd. Carrajung. Similar to a mat coprosma but flowers bisexual. Stamen filaments & style much longer than corolla tube. Tube very narrow. Stamens & style have maroon appearance. Leaves in pairs, pointed & hairy. Plant a mat covering the ground. Calyx bilobed Reported to Dr. Parsons & gave specimen to J. Galbraith to confirm identification.

1994 May 1 Plant growing in damp area in Austen's property near Darlamurla. Identified by Andrew Pagent. Illustrated in Rotherham, Willis, et. al.

Lepyrodia muelleri. Common Scale-rush

1973 Mch 11. Plant growing in Willung Sth.
1996 Apr 22nd " " " Lot 213a Rosedale.
Nov 7th " " Giffard Rifle Range.
1999 Oct 23rd " " Gellion's Run.

*Leucanthemum vulgare Oxeye Daisy

1994 Nov 9th Recorded on Licola weekend
1995 Jan 15th " " Dargo "
1996 Jan 20th " " Hotham "
April 16th Still flowering along Downies Lane.

Leucochrysum albicans

(Helipterum albicans) Hoary Sunray

1968 Sept 3rd Flowering near Glenmaggie. Basal leaves soft linear grey short - almost white.
Flower 1" across bright yellow bracts at back of flower brown + silver grey. Stalk of flower approx 1ft. white. Centre very risen. Tiny buds maroon in color. Flower stalk free from leaves. Growing in clay on cutting in road.

1969 Oct 4th Flowering near Glenmaggie.

1970 Jan 2nd " at Tamboritha Saddle.

Oct 17th " at Briagalong.

1971 Jan 30th " at Howitt Springs and on Mt Howitt Hike.

1974 Dec 7th Flowering in profusion at Tamboritha - Bennison Plains. White form with lovely purple on backs of petals. Leaves very fine short - no more than 2½" - cottony grey.

1994 Nov 9th Recorded on Licola weekend.

1996 Jan 20th " " Hotham "

1999 Jan 24th " " Glenalpy "

Leucochrysum albicans.

Helipterum incarnum var. alpina

1970 Jan 2nd Only one flower out but many in bud at Tamboritha Saddle. White everlasting fairly closely set with pink backs to petals. Greyish leaves.

Now Helipterum albicans.

Leucophyta brownii

Calocephalus Brownii (Cushion Bush)

1969 May 24th Growing in heath country at Cape Paterson. Not in flower.

1970 Mch 7th Growing around coast near Waratah Bay.

Leucopogon attenuatum

1970 Jan 24th Plant with lovely red colored berries. Berries apparently stalkless in clusters at ends of branches. Leaves ¼" long, dark above, almost white below, very stiff, point rounded with tiny spike at centre. Plant growing at Wulgulmerang

Leucopogon australis

1969 Sept. 4th Flowering at Wilson's Prom. before Squeaky Beach Turnoff.

Leucopogon collinus Rough

1970 May 25th Many pink buds but only a few flowers. Flowers in terminal spikes, lovely hairy white bells. Leaves pointed, that sometimes turn down the stem on the branches. This is characteristic of this plant. Found on Old Port Rd.

Oct 17th Flowering at Briagalong. Did not see it myself.

Leucopogon costatus.

1972 Aug 28th Plant flowering in Little Desert. Flowers
in terminal clusters. Tubes turn back showing
the stamens clearly and inside of 'petals'.
Leaves tiny stem clasping at base.
& leaves incurved towards stem.
Miss Galbraith verified this identification

B

Leucopogon Ericoides — Pink Beard Heath

Aug 27th 1966 Flowering in Bush Paddock
April 1st 1967 " near Golden Beach Turnoff.
~~Jul~~ Aug 5th 1967 Commencing to flower in Bush Paddock.
Aug 13th " Flowering along Collignee Sth Road
Sept 16 Flowering in Profusion along Lime Pit Rd
Oct 1 " in T'gon Sth Reserve
1968 Aug 10th " near Gormandale Reserve.
Sept 15th " Lime Pit Road. Rosedale.
1969 Aug 3rd " at Willung South.
16th " at the Wilson's Prom but the variety was much more sturdy than the local variety. The flowers are still shorter than the leaves but the leaves are more rigid & point at tip is more spiky — stems are more sturdy erect & leaves & flowers closer together. The plants we saw were only about 15" high.
Sept 4th The stiffer, more erect & denser variety growing profusely at Squeaky Beach turnoff at Wilson's Prom.
13th Flowering at Longford & Rosedale
1970 Aug. 23rd " in Gormandale.
" at Holey Hill Trig Point
Sept 5 " " New Area Rosedale
13 " " T'gon Sth. Reserve.
14 " " Dutson Down Road
19 " " Chesler Park
Oct 1 " new reserve Rosedale
1971 Sept 19th " at T'gon Sth Reserve and beautiful display along Whitelaw's Track, T.S.
Aug 28 - Sept 3 Flowering in the Grampians.
Aug 22nd Flowering in Loch Sport area.

1971 Oct 10th Flowering Callignee Sth Rd & Rosedale
24th " Reid's Rd Corner.
1972 Jan 30th Plant growing at Mt Howitt
Sept 10th Flowering at Rosedale
1994 Nov 26 Plants in APM block Stradbroke Sth. Gipp. H'way
1998 Oct 28th " " Mt Heddrick
2006 July 23rd Flowering at Lang Warrin

Leucopogon ericoides

1972 Aug 25th Flowering in the Little Desert. Leaves appear more spreading than L. ericoides in our district. Leaves are very recurved edges almost meeting at back. Leaves ending in district fine point but leaves not stiff enough to be pungent.
Flowers from leaf bases - up to 4 in a group.
Flowers appear much longer than wide.
Calyx consisting of 2 rows of bracts about ½ the length of the bell.
Petals very hairy but hairs pointing straight up & thus allowing the shape of the 'petal' to be visible. Tube appears to be constricted just before 'petals' spread.
Stem reddish covered with short twisted hairs well spaced.
Style appears to end in a little blob.
Identified by Miss Galbraith

fletcheri ssp. brevisepalus

Leucopogon (biflorus) Twin flower Beard-heath

1960 Oct. 4th Flowering at Burgoin's Gap. Flowers in pairs at end of branches, more than one pairs together.

1992 Jan 25th Flowering at Buckety Plains area.

1994 Nov 7th " on Licola weekend.

2003 June Name change 7th ed. Census

2005 Jan 24 Members brought back specimen from the Errinundra Weekend.

Leucopogon Collidus Drooping Beard-Heath.

1967 Feb 6th Flowering at Erica
1972 Jan 30th " " Mt Howitt
1984 Aug 3rd Just commencing to flower with lots of buds and very, very few flowers. Flower spikes bent & recurved from ends of branches giving the effect of not being terminal. Flowers in clusters of mostly 6. Leaves slightly recurved on edges. Leaves broadest ~~be~~ at middle & towards the apex. Photographed.
1993 Jan 30th Flowering in Errinundra N.P.
1994 Jan 15th " on Mt Erica & Mt St. Gwinear

Leucopogon glacialis Twisted Beard Heath

1971 Aug 31. Flowering in the Grampians Wonderland tour.
Flowers bearded small in almost hemispherical clusters, white.
Leaves tiny & twisted - pointing upwards almost touching the stem.
Petals rather circular.

1972 Aug 28th Flowering in the Little Desert. Leaves ending in a decided rigid point. Also flowering in the Grampians.

Aug 30th Flowering at Flat Rock.

Leucopogon (hookeri)(suaveolens) Hookeri

1969 Nov 23rd Flowering on Mt. Baw Baw.
1971 Jan 30th Flowering on Mt Howitt Hike but plants also growing on Howitt Springs but not in flower.
1973 Mch 23rd Plant growing at Lake Tali Khan - not flowering but with small globular red berries in racemes at end of branches. Calyx obtuse light brown. Leaves app 1 cm long, recurved entire ~~sur~~ margins, oblong ending in small point, with short stem. - Blue green undersurface.
1974 Jan 29th Different form at Buckety Plains.

1978 Jan Synonymous L. hookeri
(C. Beauglehole + R. Parsons)
(So apparently it is now L. hookeri again) C.T.

1989 Jan 14th Flowering at Wulgulmerang.
1992 Jan 25th Flowering between and at Buckety Plain ~~and~~ Angler's Rest. Bushes with a few flowers still on them but berries so big + red that they could be seen from a distance.
1995 Jan 15th Recorded on Dargo weekend.
1996 " 20th " " Hotham "
1997 " 18th " " Livingstone Ck Track near Omeo.
1999 " 23rd " " Cielantipay weekend.
Identified from specimen brought back.
2005 Jan 24 Members brought back specimen from the Errinundra weekend.

Leucopogon juniperinus   Long-flowered Beard-heath

1985 Nov 2. Flowering on road to Tamboritha but not up at the top much lower down near Grevillea lanigera var. Tamboritha. Erect, rigid low plant with stiff leaves with recurved leaves, entire margins and sharp rigid point. Flowers were mostly finished with bells dried but many still on plant. Style reddish protruding far beyond the long accuminate sepals which were still greenish white.

Leucopogon lanceolatus. (Lance Beard Heath)

1967. June 18th Found towards Eden. Leaves to 4 cm long, veins on back of leaf, 8 mm wide, lanceolate, pointed but not spiked. Flowers in long spikes up to 4 cm long, evenly spaced alternately along stem of spike. Spikes at end of branches from axils of last few leaves on each branch. Only in bud so cannot describe flower. Leaves yellow green. Bushy erect shrub. Leaves stalkless

1969 Aug 3rd Flowering at Willung South. Flower spike long than the leaves but flowers looking finer or not so heavy as the Common Beard Heath + flower has the appearance of being more open but this could be because of less dense beard
This specimen was L. Collinus identified by Miss Galbraith.

~~Sept 4th Flowering at the Prom.~~

1991 Jan 27th Flowering at Gelantipy weekend – no plant in bud. Think it was either on Tulloch Ard Road or Little River Falls.

1993 Jan 31 Flowering in Errinundra N.P.

Leucopogon Macraei (Alpine)

1967 Feb 6th Flowering Erica
1969 Nov 23rd Flowering at Mt Baw Baw.
1994 Jan 15th " on Mt Erica. & Mt. St. Gwinear.

micrNophyllis var pilibundus

Leucopogon ~~Pilibundus~~

1967 June 18th Flowering at Marlo. Flowers tiny and very bearded, 2mm across. Flowers at ends of small branches all up stem. Flower spike approx 8 mm long, Buds more brownish than pink. Leaves 1 cm long, pointed but without spike, edges recurved giving appearance of much narrower leaves. Small leaves at base of each flower spike. Rather woody plant. Leaves stalkless.

Leucopogon Parviflorus (Coast Beard)

1969 May 24th Flowering at Cape Paterson.
Quite large shrubs. Leaves broadly lanceolate; sessile, 2.5 cm long by .7 cm wide; flat, many veined, very pointed at tip with fine brown short tip but not pungent, yellow green in centre & yellowish at edges; alternate and crowded towards the tip.
Flowers from leaf bases, towards end of branches; five white petals, quite noticeably bearded, tiny - .5 cm wide, in many spikes at tip. Before opening fully flowers are tiny bell with points at tip but late opening to half way. Bell 4 mm long. Rather waxy appearance & very delicate.
Flowers on small spikes but because of many spikes together at end of branches gives the appearance of clusters. Stem brown.

Aug 16th Flowering at Wilson's Prom.
Sept 4th " at Foley's Rd the Prom - in the National Park too.
Sept 23rd Flowering at Bear Gully near Cape Liptrap
1996 Oct 12th - at Paradise Beach at 2nd pipeline in N.P.
Nov 23rd " - Old Port Trail in Nooramunga Coastal Reserve
2006 July 30th " " McLaughlin's Beach

Leucopogon. pilifera Thready Beard-heath

1985 Nov 2nd. Flowering with L. juniperinus on Tamboritha Road. Plant lax, Branches very fine, leaves with long fine cilia, few flowered. Many numerous filiform branches but low plant.

Leucopogon rufus — Ruddy Beard-heath

1971 Aug - Sept. Specimen collected in Grampians and looked very like Swamp Heath to us with sharp pointed leaves pointing up the stem. Specimen identified by Miss Galbraith.

1972 Aug 28th Plants with fruit in Little Desert.

1973 Sept 5th. Plant growing near Lake Eppalock. Bendigo.

Leucopogon. Thymifolius Thyme Beard Heath

1971 Aug 31. Flowering in Grampians on Wanderland tour.

Similar to L. ericoides but with very hairy stems + leaves & whole effect very soft. Leaves not prickly at all.

Leaves 1 cm long Δ shaped. no stalk - ~~not~~ hairy on top but very hairy below + visible right around leaf from above. Stems very reddish in colour with whitish downlike appearance due to hairs. Flowers in terminal clusters with reddish calyxs

Leucopogon Virgatus

L.

Common Beard Heath

Aug. 7 1966 Flowering in Reserve 1966

1966 Sept 17th. Black bush fly seen on flowers - could be pollanating them. .

1967 Aug 13th 1967 Flowering along Callignee Sth Road.

Sept 24 Still flowering in Reserve

Oct 22nd " " along Chester Park

Nov 4th " " Wolfe's.

Dec 31st " " T'gon Sth Res but very poor specimen.

1968 Mch 31 Flowering very slightly with buds also in APM Reserve.

(Dry Season)

~~May~~ June 9th Just one flower open but many buds at Rosedale Rd.

Aug 18th Flowering at Gormandale

Sept 15th " " " Reserve

Oct 6th " " Shingle Ck. "

20th " " Chester Park.

27 " " T'gon Sth Res.

Nov 10th " " Clarke's Rd

1969 Aug 3rd " " Willung South.

29th " " Providence Ponds.

Sept 13th " " Rosedale

21st " " APM Reserve

Oct 4th " " Burgoin's Gap.

1970 Aug 23rd " at Gormandale.

" " at Holey Hill Trig Pt.

Sept 5th " " New Area, Rosedale.

15th " " T'gon Sth Reserve

19th " " Chester Park.

Oct 1 " new reserve Rosedale.

11th " " Heyfield

1971 Aug 15th " at APM. Reserve.

Sept 19th " at T'gon South, Reserve.

1971	Aug 29th	Plants in beautiful flower in the Grampians
	Oct 10th	Flowering at APM reserve. + Rosedale
	27th	" " Reid's Corner
1972	Aug 29th	" " in Grampians.
	Sept 10th	" at Rosedale.
1973	May 13th	" " "
	Aug 4th	" " APM reserve
	April 21st	" " Whitelaw's Track
1989	July 11th	" in APM reserve. (Wet year.)
1994	Nov 26th	Plants in APM block Stradbroke Sth. Gipp. H'way
	Oct 28th	Flowering in T'gon Sth Reserve.
	Nov 9th	" on Licola weekend.
1991	Oct 28th	" " Mt Heddrick

Leucopogon woodsii

1972 Aug 28th Plant with small green drupes.
Leaves not spreading but erect around the stem sessile over the stem. Leaves blunt .
Could be slight incurved especially at apex
Leaves very small 4 mm long including tapering into stalk and 2 mm wide. Veins on leaf not visible on upper surface and only visible on undersurface with microscope .
Drupe 6 mm long with persistant style in many cases. Style about 3-4 mm long.
Sepals five, pointed.
Drupe with bracteoles below the sepal.
Think there may be 2 or 3. probably only 2.
Can't tell how many sections in ovary but do know that only one or sometimes 2 seeds develope.
If leaves are hairy they are very tiny & not obvious under 20 magnification. Leaves color as fruit ripen becoming red & yellow.
Fruit opens at end to release seed.
Petals definitely bearded & rolling back to sepals.
Stigma very prominent.

Levenhookia pusilla Midget Stylewort.

1970 Oct 25th Flowering at Cowwarr near Thelymitre irregularis. Flowers on single stalks less than 1" high. Flowers minute white. Column is supposed not to be sensitive, certainly they were all in the same position.

Libertia pulchella. (Alpine Flag)

1968 Jan 18th Flowering at Baw Baw. Very dainty flower about 1ft high. Dainty white cups of approx 4 petals on small stems raying out from single tall stem. Leaves about 4 to 5 ins long basal but like other flags flat yellow green & more up stem than completely basal .

1970 April 18th Plant found in Toronga Fall area along 1½ ml. track. Growing in ground at base of treefern and also up the tree fern trunk. The arrangement of the leaves, while not completely basal, give a fan-like affect on the trunk;

each leaf appears to come out of the previous pair.

Miss Galbraith identified plant.

1973 Jan 26th Flowering at Mt Baw Baw

1978 Jan synonymous with Sisyrinchium pulchellum (D. Geerinck, Bull. Jard. Bot. Nat. Belg. 44: 29-60 (1974) [C. Beauglehole & R. Parsons]

Census 4th Ed. 1993 gives Libertia pulchella but no Sisyrinchium pulchellum.

1994 Jan 15th Flowering & in seed at Mt Erica, on Myrtle-beech walk & Mt. St. Gwinear.

LICHENS

Lichens are not a single plant but an association of two separate plants: an alga and a fungus. Their relationship is mutually beneficial (symbiotic). The fungus acquires a food source via the alga, which makes sugars from carbon dioxide, water and sunlight during photosynthesis. At the same time, the alga acquires an additional source of nutrients, as well as a stable home within the lichen body, where it is sheltered from the vagaries of the environment. For the fungus and most lichen-forming algae, the symbiosis is obligate and neither partner occurs in a free-living state.

Types of Lichens Traditionally lichens have been subdivided into several growth-form types. These forms are used for convenience and have no use in determining relationships.

Crustose	thin, flat; tightly appressed to the substrate. May resemble paint splashes.
Leprose	as for Crustose but with a powdery appearance.
Fruiticose	shrubby or pendulous
Foliose	flat and leaf like
Filamentous	resemble cotton wool. May be called Byssoid
Squamulous	has tiny leaf-like scales
Placodioid	crustose in centre and minutely lobed at margins

The first two growth-forms are called microlichens and the rest are macrolichens. Macrolichens may have two growth-forms, where a fruiticose secondary thallus arises bearing a fruiting body.

The thallus may be attached to the substrate directly by the hyphae of its medulla or cortex, by a black felt-like mat of hyphae called a prothallus, or by specialised, root-like outgrowths called rhizines.

Reproduction
Reproduction may be sexual via spores or vegetative via some form of fragmentation of the thallus. Sexual reproduction is limited to the fungi partner of the lichen, which forms usually roundish dish shaped or globular fruiting bodies called apothecia. Apothecia can be useful in identification. In order to re-establish a new lichen spores must capture an algal cell when they germinate.

Vegetative or asexual reproduction, various types of specialised propagules are formed on the thallus surface and are easily detached. This type of reproduction has the

Lichen structure

The body of the lichen is called the *thallus* (Figure 1) and is composed of cells of the fungal partner (the *mycobiont*) and cells of the algal partner (the *photobiont*). The mycobiont is usually a member of the Ascomycota (or 'cup fungi') and is typically the dominant component of the lichen in terms of bulk. The photobiont is either a green alga (Chlorophyta) or a blue-green alga (*cyanobacterium*). The appearance of the lichen is completely unlike that of either its fungal or algal component.

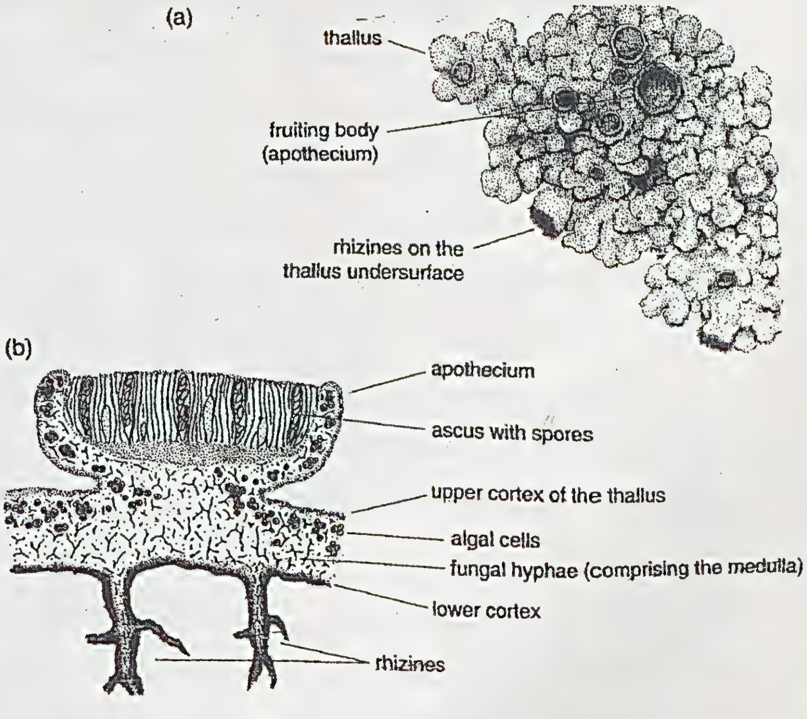


Figure 1. Diagrammatic representation of a lichen (a), with a section through the thallus and apothecium (b). (Drawing by Patrick McCarthy.)

advantage of dispersing both partners of the lichen simultaneously.

A small number of lichen species have Basidiomycetes (the familiar mushrooms and toadstools) as partners. Most have Ascomycetes (*Penicillium* spp the fungi of blue cheeses and oranges, *Taphrina* spp, which cause leaf curl in peach and nectarine trees, brewers' and bakers' yeast, brown rot fungus, ergot and mildew). Many aspects of lichen reproduction are poorly understood. However, the success of the process is demonstrated amply by the speed with which lichens colonise new habitats such as road cutting or young twigs or volcanic islands.

Most lichens are tolerant of extreme illumination and nearly complete desiccation. When wetted, the desiccated lichen can absorb 3 to 35 times its own weight of water. This ability means that lichens can inhabit the most extreme habitats. Lichens form the most conspicuous cover in Antarctica but less in the Arctic. They are often found on rocks above the high tide mark on ocean shores, where they receive salt spray.

Uses

Most lichens are non-poisonous and can be used as food in an emergency eg Rock Tripe. The extensive lichen pastures in birch forests of Scandinavia and Canada provide food for reindeer and caribou. They are used as dyestuffs and medicines and have antibiotic properties. There is a perfume industry in France based on lichens.

One of the major uses of lichens is for environmental monitoring. Lichens are highly sensitive to minute changes in the environment, and different species serve as finely tuned indicators of habitat conditions. Since they cannot excrete substances they absorb from polluted air, lichens accumulate quantities of industrial waste material... When this accumulation reaches a toxic level, the lichen dies. Some lichens are slightly more tolerant of industrial waste than others. The presence of tree bark lichens is a good indicator that air pollution is not excessive.

Lichens (1)

Mr Felson's talk on Lichens:- 2·5·69

He commenced by explaining the very wide ecological range over which they grew:- In crevices from 10ft below the ice surface in antartica, to sands of desert in Central Australia & in the rain forests on the mountains in Queensland. They grow very slowly & the some plants measured in Scotts time and again recently lead to suggestion that some are over 2,000 years old. Lichens are a balanced relationships of two ~~living~~ individual plants living together - a fungus & an algae. The fungus supplies the water & minerals & the algae supplies the sugars. The fungus cannot live without the algae but the algae can live alone. The plant reproduces by fragmentation - a little piece floats away or is scattered in some way & a new lichen commences to grow. Some grow special parts for reproductive purposes. These are called accessory structures & break off very easily. The fungus is usual colored except green & the algae is some shade of green because of the chlorophyll. The fungus reproduces by means of hypha & the algae by dividing, but the changes of the two meeting in the air is very remote. The combination is called controlled parasitism because the fungi does destroy part of the algae. Lichens are included as a food for man - either as a delicacy or usually as a last resort. In Iceland certain lichens are gathered & sold for use in bread, gruel, salads & jellies. (Mixed into the flour the bread keeps much better). In Japan some lichens are used as a delicacy. They are also

used in curries - in other countries, especially Russia, instead of hops in the production of alcoholic beverages. Reindeer can, and often do, live entirely on lichens. Lichens can cause irritation to the lining of the stomach - Can't remember if this was Australian lichens or all countries.

Lichens are divided into three main groups.

Foliate - leaf like - have hairs underneath or in central area. Fruiting bodies like saucers.

Fruiticos - bush like - growing erect with fruit on ends. Rise directly from the surface or stalks.

Crustos - very small - flat patches on rocks. firmly attached so that they cannot be removed at all.

You must check for rhizome underneath lichens as this is a distinguishing detail.

Perithecia is on the inside ~~layer~~ fruiting body

Apothecia is " outside " "

Thalus is surface of leaf like structure

Color tests - Use three acids and note the color changes each one causes. There is a key that works on the results of these color changes - Acid pottassium hydroxide (P) calcium hypochlorite (C) and another known as (K) (didn't get name).

Ultra Violet light tests. Some lichen glow under the UV light - others don't. This is also used in some keys.

Lichens (3)

The fruiting bodies are only on the fungi, the algae only reproduce by dividing.

Under a microscope the surface of lichens just appears flat whereas a liverwort has a distinctive cell structure.

Lichens part in the scheme of things, is to break down surfaces of soil, plants or rocks by partly dissolving them & allowing them to return to the soil; so they are soil formers.

Article on Page 108 of Victorian Naturalist Oct 1942 Vol 59 gives a good description of terms used & history of lichens in Victoria.

Lichens (4) — identified

Cladonia - sticking up - branched - pale green sometimes cups inside each other. Belongs to the Fruitico group. South Cascade 2/5/69. Three different types.

Menegazzia - Foliate - leaf like flat whitish on a tree. Soft fruiting bodies with air pockets amongst leaves making them soft to touch. Leaves with holes Lip round fruiting body. South Cascade 2/5/69. On trees - rocks.

Usnea - Old Man's Beard. Flat discs are fruiting bodies. Fruitico group. South Cascade 2/5/69 - small type and barbata - very large discs. Legs around discs

Hypogymnia - Also foliate - leafy green similar to menegazzia but with no holes. Still cushiony and with no urn or fruiting bodies. Fruiting bodies when fully developed flat platelike disc on stalk. Darker green tending brown. 2/5/69 South Cascade on trees & rocks

Parmelia - flat on tree 2/5/69 South Cascade.

Claydia - fruitico groups - like fine branched bright green moss, branches very fine. 2/5/69 South Cascade.
Green Reindeer moss is Claydia agrigata - Black on edges is fruiting bodies. 2/5/69 South Cascade

Stictá – flat like big leaves with wavy edges.
Spots on back of leaves. 2/5/69 South Cascade.
~~Three~~ Four varieties – green large – greenish white small – grey large with brown back – grey large with whitish back.

Peltigera – Very like strictá but with no spots and veins instead. 2/5/69 South Cascade.
Dark green with whitish back.

Sphaerophorus :– Only grows on beach trees.
Very beautiful – belongs to fruitcoe group.
Very stiff – grey green spreading into fan shape.
2/5/69 South Cascade – White on back.

Steriocaulon:- fine type - fruitico - grey mauve in color - found in clumps about 6" across and 1" high. Has brown fruiting bodies. Grows on rocks 2/5/69 South Cascade Very pretty dense lichen.

Calisium - Tiny lichen on bark of trees. Tiny white balls just fruiting bodies - lichen just stain on bark - all fruiting bodies burst. Mrs Jacobson found it. 2/5/69 South Cascade

Crustos Two types of this lichen on rocks. One had yellow green plant with light brown or red fruiting bodies on stalks. Other was blue green on rocks. 2/5/69 South Cascade.

Lichens (8)

Unknown Flat folius type lichen on rocks, could be removed with knife but tended to break up - brittle. Fruiting bodies brown raised very slightly. Name not known by Mr Felson 2/5/69 South Cascade.

Another similar to above but fruiting bodies more red & not visible to naked eye but quite plain under microscope. Also on rocks on termite mound at Gingery north 20/10/69. Roots black under microscope visible when spreading on rocks. Had photographed through microscope.

Baeomyces roseus (?) Dadamurla.
Lichen growing on bank along roadside. 26.7.69
Leafy part green fruiting bodies mushroom color
Fruiting bodies very dense + convex until dry + then they became concave.

Xanthoria parietina (?) Dadamurla
Orange lichen growing on trees. 26.7.69

Liliaceae

An extract from Flora of Australia Volume 45.

The classification of the petaloid monocotyledons has been the subject of considerable debate for more than a century. Throughout this period the position of the ovary - whether superior or inferior - has been accorded high taxonomic status. In general those taxa with 6 petaloid perianth segments , 6 stamens and a superior ovary were 'lilies' and those with 6 petaloid perianth segments, 6 staamens and an inferior ovary were 'amarylids'.

The 'lilies' were variously regarded as the single family Liliaceae or as a series of families based upon variation in inflorescence structure or other characters separate from the flower. Lotsy (1911) recognised several families in addition to Liliaceae, but his opinion was not widely accepted and the 'lilies' were accepted as a broadly defined family until Huber (1969) suggested their dismemberment into two orders largely on the basis of seed anatomy, but drawing upon a wide range of attributes. Dahlgreb, Clifford and Yeo (1985) considered the 'lilies' a heterogeneous assemblage of genera and placed them in families grouped in two orders, Asparagales and Liliales.

This narrow family concept has not been followed by Thorne (1976), Takhtajan (1980) or Conquist (1981) though the former two writers recognised several subfamilies with the Liliaceae *s. lat.* In contrast, Cronquist has taken a very broad view of the family and included within it the widely accepted Amaryllidaceae. In doing so he has rejected the position of the ovary as of little taxonomic significance. He has thus carried further the move initiated by Hutchinson (1934) who transferred *Allium* and its allies from Liliaceae *s. lat.* to the Amaryllidaceae.

In Flora of Australia Liliaceae is treated in its broad sense, conforming to the concept of A. Cronquist, *An Integrated System of Classification of Flowering Plants* (1981). The Flora of Victoria also retains this broad concept.

Luzuriagaceae
Drymophila
Convallariaceae
Ophiopogon
Asparagaceae
Asparagus, Protasparagus, Myrsiphyllum.
Asteliaceae
Astelia, Milligania, Neoastelia
Blandfordiaceae
Blandfordia
Hypoxidaceae
Hypoxis, Curculigo, Molineria
Tecophilaeaceae
Cyanella
Phormiaceae
Dianella, Stypandra, Thelionema, Agrostocrinum
Asphodelaceae
Asphodelus, Trachyandra, Bulbine, Hyperolition,Bulbinella
Anthericaceae
Johnsonia, Arnocrinum, Hensmania, Stawellia, Laxmannia, Sowerbaea, Borya, Alania, Caesia, Chamaescilla, Tricoryne, Corynotheca, Hodgsoniola, Thysanotus Murchisonia, Arthropodium, Dichopogon, Chlorophytum.
Hyacinthaceae
Ornithogalum, Albuca, Scilla, Muscari, Lachenalia, Endymion, Nothoscordum.
Alliaceae
Ipheion, Allium, Agapanthus
Amaryllidaceae
Amaryllis, Crinum, Zephyranthes, Proiphys, Narcissus, Leucojum, Calostemma, Hymenocallis,Galanthus, Nerine, Steernbergia
Campynemaceae
Campynema
Alstroemeiaceae
Alstroemeeria
Colchicaceae
Wurmbea, Baeometra, Gloriosa, Iphigenia, Burchardia
Uvulariaceae
Schelhammera, Tripladenia, Kuntheria,
Liliaceae
Lilium

Changes within Liliaceae from Willis to Census 2003

Native Species

Anguillaria dioica is now Wurmbia - There are 4 species of which *W. dioica* & perhaps *W. uniflora* are recorded in our area. *W. dioica* has purple nectaries and anthers while *W. uniflora* has white nectaries & yellow anthers.

Dichopogon strictus is now *Arthropodium strictum.*

Dichopogon fimbriatum is now *Arthropodium fimbriatum.*

\+ There are also *Arthropodium sp. 1. A. sp.2 & A. sp.3* but none of these are recorded for our area.

Astelia nervosa is now *Astelia australiana.*

Borya nitida is now *Borya mirabilis.*

\+ *Bulbine glauca* - Rock Lily.

Caesia lateriflora is now *Corynotheca licrota* - Sand Lily

Caesia nittata is now *Caesia calliantha.*

Dianella - There are now 10 species and 12 sp. aff D. longifolia or Sp. aff D. revoluta or Sp. aff D. tasmanica.

\+ *Hypoxis exilis* and varieties for *H. vaginata & H. hydrometrica. Hypoxis vaginata var. vaginata* is recorded for our area.

Hypoxis hydrometrica var. hydrometrica grows in grasslands and light forests, sepals hairy. *Hypoxis hydrometrica var. villosisepala* grows in sandy soils and glabrous sepals.

Laxmannia sessiflora is now *Laxmannia orientalis.*

Stypandra caespitosa is now *Thelionema caespitosa.*

\+ *Thelionema umbellatum* -Clustered Lily. Inflorescence umbel-like, white, leaves to 3mm wide, midrib ridged but not keeled.

Thysanotus dichotomus is now *Thysanotus juncifolium.*

Thysanotus tuberosus now has 2 subsp. *T. tuberosus subsp. tuberosus* is recorded in our area but *T. tuberosus subsp. parvifolus* is only recorded for SW corner of Victoria.

\+ *Tricoryne tenella* - Mallee Rush Lily is only reorded for the Mallee.

Alerations to introduced species naturalised in Victoria.

\+ *Agapanthus praecox — From Amaryllidaceae to Liliaceae

\+ *Allium ampeloprasum - Great-head Garlic — ditto

\- * " cepa - Gasrden Onion

\- * " oleraceum - Field Garlic

\- * " sativa - Garlic

\+ * " paniculatum - Leek — ditto

\- * " schoenoprasum - Chives

\- * " scorodoprasum - Land Leek

_ * " sphaerocephalon - Round-headed Leek

*Alstroemeria aurantiaca is now **Alstroemeria aurea.*

\- *Alstroemeria pulchella - New Zealand Christmas Bells

\+ **Asparagus aetheopicus*

\+ **Asparagus declinatus* -Pale-berry Asparagus Fern

\+ **Asparagus scandens* - Asparagus Fern

\+ **Baeometra uniflora* - Baeometra

\+ **Chlorophyton comosum* -Spider Plant

\+ **Hyacanthoides non-scripta* -Wild Hyacinth

\+ **Lilium formosanum* - Taiwan Lily

*Muscari botryoides is now *Muscari armeniacum* - Grape Hyacinth

\+ **Muscari neglectum* - Grape Hyacinth - not sssure if truly naturalised

\- *Narcissus jonquilla - Jonquil

\- *Narcissus odorus

\+ **Narcissus x incomparabilis* Not sure if truly naturalised

\+ **Nerine flexuosa* - Pink Nerine

*Nothoscordum inodorum is now *Nothoscordum borbonicum* - Fragrant False Garlic

\+ **Ornithogalum arabicum* - Lesser Cape Lily

\+ **Ornithogalum longebracteatum* - Pregnant Onion

\- *Ornithogalum caudatum - green & white

\- *Ornithogalum lacteum - white

\- *Ornithogalum thyrsoide - white

\+ **Ornithogalum umbellatum* - Star of Bethlehem

\+ **Scilla pervian* - Cuban Lily

\+ **Spiloxene capensis* - Spiloxene

Xanthorrhoea and Lomandra have been moved from Liliaceae to Xanthorrhoeaceae and Calectasia has also been added to Xanthorrhoraceae from Calectasianeae.

BOTANY – LILIACEAE

Books used in compiling this list with abbreviations:
Galbraith,J. CFG to Wildflowers of SE Australia – G
Willis, J Handbook to plants in Victoria Vol.1 – W1.
FG to Australian wildflowers – AW.
Name that flower – NTF.

GENUS	SPECIES	REF & PAGE in Name That Flower	FAMILY
Anguillaria	dioica	G. 31, W1. 317	Liliaceae
Burchardia	umbellate	G. 31, W1.318	
Dichopogon	stricta	G. 32, W1 306, NTF.205	"
	fimbriatus	" "	
Thysanotus	tuberosus	G.32, W1. 306, AW. 34	Anthericaceae
	baueri	G.32, W1. 307	
	patersonii	G.33, W1. 306	
	juncifolius	G.33, W1. 308	Liliaceae
	dichotomus	G.32, W1.307	
Caesia	parviflora	G.33, W1,304	
	alpine	G. 33, W1. 303	
	vittata	G.33, W1. 304	
	lateriflora	W1. 303	
Arthropodium	milleflorum	G32, W1. 305, AW.34	Anthericaceae
	minus	G.32, W1.305	
Chamaescilla	corymbose	G.33, W1.302, NTF.206	Liliaceae
Bulbine	bulbulosa	G.33, W1.308	Liliaceae
	semibarbata	G.33, W1. 309	
Iphigenia	indica	G.33	
Sowerbaea	juncea	G33, W1.311, AW.34	Anthericaceae
Stypandra	caspitosa	G.34, W1.315, AW.304,	Phormiaceae
		NTF.207	Liliceae
	glauca	G.34, W1.315, AW.304	"
Dianella	tasmanica	G.34, W1.313, AW.304	"
	revoluta	G.34, W1.314, AW.304	"
	laevis	G.34, W1.314, AW.304	
	caerulea	G.34, W1.314, AW.304	"
Blandfordia	nobilis	G.34, AW.64	Blandfordiaceae
	grandiflora	G.35, AW.62	"
	cunninghamii	G.35 AW.62	"
	punicea	G.35 AW.64	"
Tricoyne	elatior	G.35, W1.309	Liliciaceae
	simplex	G.35, W1.309	
Kreysigia	multiflora	G.35	"
Laxmania	sessiliflora	G.35, W1.310, AW.34	Anthericaceae
	"		
	gracilis	G.35, W1.310,	"
Borya	nitida	G.35,W.311	"
	septentriondis	G.35,	"
Alania	endlicheri	G35	"

Milligania	densiflora	G.36	Liliciaceae
	johnstonii	G.36	"
	stylosa	G.36	"
	longifolia	G.36	
Drymophila	cyanocarpa	G.36, W1.313	"
Astelia	alpina	G.36, W1.312	"
	psychrocharis	G.36,	"
	nervosa	W1.312	"
Schelhammera	undulata	G.36, W1.316	"
Smilax	australis	G.37, W1.320	"
	glyciphylla	G.37	"
Rypogonum	album	G.37, W1.319	"
Eustrephus	latifolius	G.37, W1.319	"
Geitonoplesium	cymosum	G.37	"

Limonium ~~Statice~~ australes   Yellow Statice or Yellow Sea-lavender

1968 May 12th Flowering at Gellingdale Run. Just like garden statice but very small & fine. Leaves whitish blue green + widest at tip.

1970 Mch 5th Flowering in swamp area near Sandy Point (Walkerville). Most flowers had finished blooming. Very branched plants and spent flowers brown.

1993 Feb 26th Flowering in salt marsh at Shallow Inlet.

Limosella australis Austral Mudwort.

1981. Mch. 10th Flowering up near TV towers on muddy ground on edge of dam. Tiny plant about 1" high. Leaves narrow - under ½ cm. Flowers on stalks, petals light pink. In "Wild Flowers of Eastern Europe" it is recorded also in Wales as rare plant.

Linaria pelisseriana. Pelisser's Toad-flax

1994 Oct 30. Growing in Dawson R'way Reserve

2003 Oct 31 John Topp brought specimen from Munro Reserve. Flora of Vic states plant has leaves are in 3s. We found round leaves in 3s at base of plant but leaves(?) up stem were alternate, linear & incurved. Were these bracts?

Lindsaea linearis   Screw fern

1967 Mch. Whitelaws Track
1968 Apr 13th Anderson's Track with sori.
Oct 20th Senini's Track
1969 Feb 16th Rosedale
Mch 18th Willung South with sori.
1969 Oct 1st Warragul.
1970 Mch 7th Heathlands at Waratah Bay.
1968 Apr 14th Home Bush.
1966 June Buchan.
1970 Aug 29th Darlamurla
Nov 23rd Lilly-Pilly Gully.
1971 Oct 27th Reid's Corner
1994 Nov 26 APM block Stradbroke Sth. Gipp. H'way.
1995 Apr 12th Drouin Water Reserve.
Oct 28th Wonthaggi Heathlands.
2000 Dec 3rd Sweetwater Ck. Reserve.
2001 Aug 27th Newborough bush.
Dec 1 " " Sandy Ck.
2006 Sept 30 Senenis Track
Nov 4 Springsure area.

Lindsaea microphylla. Lacy Wedge-fern

1962 June 18th. Euchre Valley, Cann River.

Linum marginale Wild Flax

1970 Jan 25th Flowering at Wild Dog Creek, Wulgulmerang. This plant was much taller with larger, at least ½" across, darker blue flowers than the plants found at home. Also the plant was not so fragile, the petals stayed on the flower after picking.

1971 Jan 30th Flowering at Howitt Springs.

1992 Jan 25th " near Buckety Plains

1994 Oct. 10th " at corner of Downies Lane. Plants 2'6" high. Checked that styles are united and appeared to be to the top. Flowers and plants bigger than those on our property but this may be because they are not grazed

1995 Jan 15 Flowering on Dargo weekend.

1996 " 20th " " Hotham "

Dec " " Railway Reservoir Conservation Reserve, Traralgon

1997 Jan 18th " " Bentley's Plain.

1999 Jan 23rd Recorded on Cielanhpay weekend.

*Linum trigynum French Flax

1996 Dec Flowering in Railway Reservoir Conservation Reserve, Traralgon
1997 Feb. 14th " on the Rail Trail.

Annual herb 10-50 cm high, erect, glabrous, lightly branched. Leaves linear-lanceolate ·5 cm long, margins entire, alternate, sessile. Inflorescence branched with long ~~pedicles~~ peduncles and short pedicles. Sepals lanceolate. Petals yellow. Flowers 7mm wide spreading petals. Calyx 3mm long.

Lissanthe strigosa peach heath.

1967 Aug 27th In bud at Cowwarr. Came out in water about fortnight later.

Sept 1st Flowering at Glenmaggie.

Nov 5th " " Cowwarr

1968 Oct 13th " " "

1971 Aug 28th " " Wildflower Sanctuary at Stawell, at Mrs Bennett and Rose Gap Road in the Grampians. Plants quite tall about 2½' to 3' high & flowers lovely pink shade. Does not compare with the tiny plants we are used to at Cowwarr.

1994 Oct 30. Growing in Dawson Water Reserve - flowering.

Nov 7th Flowering at Licola weekend.

Oct 30 Growing in Dawson R'way Reserve "

~~95~~

Liverworts

1968 Mr Turner stated that there are more liverworts than mosses. The main difference is their fruiting bodies. Also mosses have a main vein but liverworts do not. Some liverworts are leafy e.g. The one from Bulga Park that we sent to Herbarium for identification. Leaf structure is composed of threads in geometrical shape joined together. Specimen named by Mr Tescott was Trichocolea australis He describes the structure as fine interlacing threads. and states it grows on beech trees or in wet rain forests.

1968 Nov. Bulga Park. Fan shaped leaves with cells thickened to give appearance of vein. Cells hexagonal long ⇕ thin walls and fairly clear but denser in middle. Sure it was a liverwort as it had fruiting bodies. Took slide. Leaf up to 1 cm across on a stalk about 2 cm long.

1969 Mch 29th Ordinary green liverwort with seeds in cups.

Mch 29th Dark grey rather flat leaves with ¼" hairs on roots on the underside of some leaves. Underside of leaves white or cream. What we thought were fruiting bodies were brown oval shiny shapes on the end of a protrusion of the leaf. Back of area where fruiting body was was perfectly normal. Fruiting body - if that is what it was, was only on the front of leaf protrusion.

1970 Oct 11th Liverwort with brown umbrella-like capsules. This specimen was found at Longford + Heyfield. Ollie photographed it.

LOBĒLIA.

Lobellia (Alata) anceps (Angled L.)

1967 Jan 14th Flowering Anderson's Track
Feb 12th " at Wolfe's.
April 1st " at Loch Sport
Nov 25th " Anderson's Track
1968 Jan 28th " at Wolfe's swamp.
1970 Mch 4th " at Waratah Bay. Some plants almost white while others mauve in the camp area.
1993 Feb 26th Flowering along track to Shallow Inlet.
2003 June Name change in 7th ed of Census

Lobellia Gibbosa (Tall)

1968 Dec 29th Flowering at Darlamurla.
1969 Jan 1st " in our Bush.
1970 Jan 2nd " at Burgoin's Gap.
25th " at the Cobberas and on road to Benambra.
1972 Jan 30th Flowering at Mt Howitt.
1993 Jan 31st " in Errinundra N.P.

Lobelia
(Pratia) ~~(surrepens)~~ concolor.

1970 Jan 24th Flowering at Wulgulmerang.
1971 Jan 31th Flowering on Mt Howitt Hike. Very mat-like plant with only about 5 leaflets to a stalk; 2 opp. + 1 at end. Flowers stalkless, leaves entire (not toothed). Tube of flower split, flowers white with purple or mauve markings.
~~For~~ This plant is P. concolor identified by Miss Galbraith
2003 June Name change in 4th ed. of Census

Lobelia
(Pratia) irrigua   Salt Pratia

1996 Oct 12th Flowering at Paradise Beach near 2nd pipeline in N.P.
2003 June Name change in 17th ed. of Census

Lobelia
(Pratia) Pedunculata. (Trailing Pratia)

1967 Jan 14th Flowering in hollow in ground .8 mls from Early Rd. along Anderson's Track. Small ¼ flowers stalked from leaf bases, white. Leaves small rounded (or ovate) and toothed. (Miss Galbraith identified)

1971 Jan 17th Flowering at the Springs and Mt Useful. Lovely blue flowers split down tube thus identified from Isotome. Flowers with quite long stalks.

Jan 30th Flowering at Howitt Springs.

1993 Jan 31 " in Errinundra N.P.

1994 Nov 26th " , APM block Stradbroke Sth. Gipps. Hway

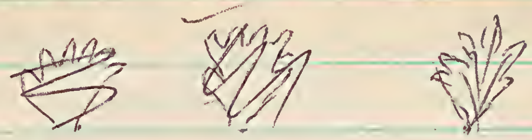
1997 Jan 18th " - Livingstone Ck Track & Mt Nugong.

1999 Jan 23rd " " Gelantipy weekend. Identified from specimen brought back.

2003 June Name change in 4th ed of Census

Lobelia rhombifolia   Tufted Lobelia

1992 Dec 9th Flowering along Lyrebird Walk near Darlamurla.
Leaves obovate cuneate with app 5-6 coarse teeth

 all up the main stems.

Flowers solitary on the ends of long pedicles. Up to four pedicles from central point. Corolla blue with white centre. Calyx lobes long and narrow, pointed. Leaves at lower third of stems although, there are a few what appear to be floral leaves at place where pedicles join.

Lobelia simplicicaulis   Narrow lobelia

05 Jan 9th Photo brought to meeting by Jack Weets. I think it is this species partly by distribution. Jack thought it was L. dentata and it is very difficult to separate the two without better picture of leaf to see teeth or lobes and also by seeds. This species was originally L. gibbosa var simplicicaulis.

Feb 1 Jack sent specimen of leaf + some seeds. Leaf is similar to illustration in 'Flora of Victoria' and seeds are beautiful at this stage. They were real amber colour with translucent appearance + again just like illustration. Specimens were from Edward Hunter Reserve, Moe. Sent specimens + photo to herbarium for distribution record for TNT.

2005 Feb 15th Received letter from Herbarium verifying identification correct but material insufficient to be retained for their collection - would like larger specimen please if possible. Passed letter on to Jack. Herbarium kept photo.

Lobelia
(Pratia) ~~concolor~~ surrepens.

1971 Jan 31st Flowering on Mt Howitt Hike. Very mat-like plant with only about 5 leaflets to a stalk, 2 opp + 1 at end. Flowers stalkless, leaves entire - not toothed. Tube of flower split, flowers white with purple or mauve markings.

This plant was identified by Miss Galbraith.

1995 Jan 15th Flowering on Omeo plain

1996 " 20" " " Hotham weekend.

1997 " 18" " " Bentley's Plain.

2003 June Name change in 1st ed. of Census

Logania albiflora Narrow-leaf Logania

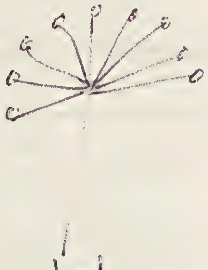
1989 Sept 16 Flowering on steep track up to Mt Elizabeth from the car park. Also further round the road.

Shrub with tiny tiny white 5-petalled flowers ~~at leaf bases~~ & buds that are blackish before opening.

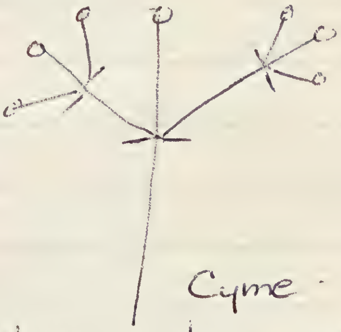
1991 Jan 25th Flowering near Wulgulmerang.

1999 " 23rd " on Gelantipy weekend. Identified from specimen brought back.

1999 Apr 26th James Turner identified the above specimen from Gelantipy Weekend as Platysace lanceolata because the flowers were in umbels whereas Logania albiflora has flowers in cymes.



umbel.
flowers from central point.



Cyme.
flowers where main axis ends in a flower & further branching also has main axis ending in flower. See bracts

Logania linifolia

1972 Aug 28th Plant growing in the Little Desert.
Plant slender, branches pubescent, leaves 1 cm long app. 3 mm broad, flowers terminal and axillary.

1973 Sept 5th Growing at Diamond Hill - Bendigo but a few flowering in the Whipstick.

*. Lolium perenne — Rye Grass

1994 Oct 30 Growing in Dawson R'way Reserve

2003 June In Veg Census note is made of 3 varieties of this species.

[illegible]

Lomandra collina. Matrush.

1994 Oct. Recorded in Dawson R'way Reserve.
This species used to be included in *L. glauca*

LOMANDRAS

FLORA OF AUSTRALIA (1986)

Lomandra glauca was not recorded for Victoria, it was considered a N.S.W. species.

Lomandra nana was recorded for western Victoria towards the southern border of South Australia and south eastern South Australia while also in Tasmania.

Key to separate *L. glauca, L. nana & L. collina. .L. collina* is another similar species which grows in southern W.A., Nullarbor, southern S.A., north western Victoria and south western N.S.W.

L. glauca has leaf sheath margins abruptly narrowed at top (obvious in young leaves) with male inflorescence branched or unbranched, usually 10cm long, male scape usually not exposed above leaf bases or rarely exposed up to 2.5cm; leaves 8-20cm long, up to 4 times as long as the male inflorescence.

L nana has leaf sheath margins narrowing gradually at top. Leaves usually 5-15cm long, rarely to20cm, bluish green, erect or often curved to sone side; male inflorescence usually unbranched.

L collina has longer leaves 10-45cm long, more or less glaucous, never curved to one side, male inflorescence usually branched.

FLORA OF VICTORIA (1994)

L. glauca is recorded along the lowlands of East Gippsland and from Yarram/Sale area.

L. nana is recorded widely in south western Victoria, Melbourne area and ; less so in grids S, T and W in eastern Victoria, also S.A. & Tasmania.

L. collina is widely recorded in north western Victoria, also in W.A., S.A. & N.S.W.

From key -

L. glauca has leaf sheath margins more or less abruptly tapering at top (approaching blade at an angle of 45 deg,), highly shredded, often brownish; leaf apex rounded -truncate or broadly acute.

L. nana & L. collina with leaf sheath margin narrowing gradually at top (meeting with blade at an angle of 30 deg.) not much shredded or much shredded and whitish; leaf apex truncate to long acute.

L nana Leaves mostly 5-17cm long, often ccurved, obtuse or truncate at apex (often slightly dilated just below apex), green to somewhat bluish but hardly waxy, sheaths usually not copiously shredded; male inflorescence unbranched (very rarely with 1 or 2 weak branches).

L collina Leaves mostly 15- 40cm long, straight acute or long rounded apex, not dilated below apex, often waxy glaucous, sheaths highly shredded; male inflorescence branched (in all but depauperate plants).

I have *L. nana* recorded from Rosedale, Traralgon South Flora & Fauna Reserve, Clarke's Road and Wonthaggi Heathlands.

I have added the photostats just to give you some idea of the variety of inflorescences in Lomandras and the difference between male and female flowers.

The width of the leaves is not mentioned in the keys because all these species we are considering have leaves 0.8 -1.5mm wide and all the female flowers are globular heads. Even *L. filiformis* can have thin leaves as its range is 0.5 - 5mm. but its female flowers are less branched than male flowers or even unbranched.

Lomandra Filiformis — Wattle Matrush

1966 Aug 27th Flowering Sunday Rd.
1967 Aug 27 " in our paddock and at Cowwarr.
Oct 1 Still flowering T'gon Sth Reserve
22nd " " along Clark's Rd.
1968 Sept 10th Flowering in Glormandale Reserve.
Oct 6th " " T'gon Sth Reserve.
Nov 10th " " Clarkes Rd.
1969 Aug 29th " " Granite Rock.
Sept 4th " " Wilson's Prom.
13th " " Rosedale
Oct 18th " " "
1970 Aug 23rd " " "
29th " " Darlamurla. Good specimens
Sept 5th " " New Area at Rosedale.
15th " " T'gon Sth. Reserve.
Oct 1 " new reserve Rosedale
11th " at Heyfield.
1971 Sept 19th " in T'gon Sth Reserve.
Oct 10th " at Rosedale
24th " in APM Reserve
Nov 12th " at Reid's Corner.
1975 Aug 30th " " Mullundung.
(Illustration Victorian Naturalist Vol XLV June 1928 P. 34.)
1994 Nov 26th " " APM block Stradbroke Sth. Gipp. Hwy
Oct 28th " " T'gon Sth. Reserve
Nov 1 " " Casuarina " Fulham.
Oct 30 " " Dawson Water Reserve.
" " " " Rivery "
1995 " 28 " " Wonthaggi Heathlands.
Dec 12th " " Railway Reserve near Traralgon
1999 Jan 23rd Recorded on Gelantipy weekend
2000 Dec 3rd Flowering in Sweetwater Ck. Reserve.

2001 Aug 27th Growing in Newborough bush.
Dec 1. " " " " Sandy Ck.
2002 Nov 14 " " Railway Reservoir Reserve, T.gon.
This was var coriacea.
2003 Dec 1 Flowering in Maffra near Golf Course on roadside S. 54 var. coriacea. Collected by John Topp.
2004 Apr 3 Growing on Colley's Rd. Block var coriacea
2005 Nov 5 Flowering at Tom Simpson's Bush Block Trafalgar Nth. both subsp filiformis with leaves 1-1.5mm, bluish leaves & 1-3 fine teeth at tip; and subsp coriacea with 3mm green leaves with rounded tip.
2006 Sept 30th Both subsp. present at Seneris Track
Nov 4 " " " " Springsure area.

Lomandra filiformis

1976 Nov. 14th I think this specimen was certainly not ~~be~~ L. filiformis. The three inner segments of the flower were the same length but not so ~~wid. thin~~ narrow as the outer segments. There were very small bracts + flowers were mainly in pairs. The whole panicle was very fine. Most of the leaves were flat but one was terete about the middle but flat above + below this area.

(There are male + female plants for Lomandra so this was still probably L. filiformis) 29.11.81.)

Identified as L. filiformis by Dr. Parson.

2002 There are now 2 varieties of L. filiformis

var. filiformis has leaves 0.5 – 1.5mm wide, folded to strongly inrolled or flat, flexible or rigid, with 1–3 minute points at apex.

var. coriacea has leaves (1.5–)2–5mm. wide, flat or nearly so, leathery or firm, with apex usually entire in mature leaves (points readily eroded).

Perhaps the above specimen may have been var filiformis thought most plants around T'gon are var coriacea.

Lomandra longifolia

Key to subspecies

1 Leaves 4-10 mm wide; male inflorescence generally branched, more than 3 cm wide and 15 cm long, Bracts usually very prominent; scape usually pale, yellowish or green
L. longifolia subsp. longifolia

1a Leaves 2-4 mm wide; male inflorescence unbranched or with short appressed branches, less than 3cm wide and 15 cm long; bracts often barely exceeding flower clusters; scape often purplish.
L. longifolia subsp. Exilis

Lomandra longifolia

Leaves 50 -100 cm long, 2-10mm wide, glabrous; apex often irregularly 2 or 3 pointed. Male ahd female inflorescences similar, unbranched or branched often 2 per node and distichous, 12-50 cm long, with flower clusters whorled; non-flowering axis exposed for 4.5-42cm, laterally flattened; flower-bearing axis 4.5-30 cm long. Bracts at the base of each cluster of flowers generally longer to much longer than the flowers, pungent, straw-coloured to whitish. Flowers sessile.

Key to subspecies

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Lomandra glauca. Pale Mat-rush

2006 Nov 25 John Topp brought specimens to meeting. The fruit was quite large in one specimen - about 1+ cm at least but others not quite so large. Leaves green, slightly flat ~~concave~~ & curved, ± 20 cm long. ~~Female~~ Male inflorescence taller than in _L. nana_. Leaf striations easily visible as on C.D. rom. Leaf sheaths abruptly narrowed Could see leaf bracts at base of fruits but quite small. It looks as if there are more flowers to a cluster than in either _L. nana_ or _L. filiformis_.

Lomandra Longifolia

1966 Sept 9th Flowering Clark's Rd.
Also found another type in which the bracts far exceeded the flowers and gave it the appearance of something like an ear of wheat.

1967 Sept 30th Flowering Clarkes Rd and T'gon Sth Reserve
Oct 22nd " " "

1968 Oct 20th " " "
27th " Call. Sth Rd.
Nov 10th " Clark's Rd

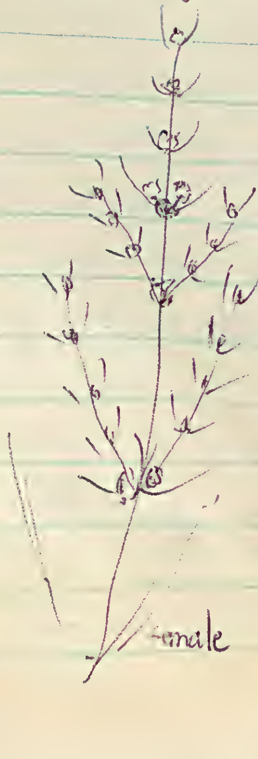
1969 Aug 29th " at Providence Ponds
Sept 17th " Rosedale

1970 Sept 15th " at Traralgon South, Reserve.
Oct 1 " new area Rosedale
" 11th " at Heyfield
24th " at Reid's Corner

1991 Jan 26th Plant growing on Tulloch Ridge Rd, near Gelantipy.

1994 May 9th " " in Lyrebird Walk near Parlamurla.
These plants had very narrow leaves (3mm wide) with entire margins. Apex of leaves at maturity had 3 even-sized teeth across top. The flowers were dried with single bract much longer than lower cluster of flowers. There was also a stout stem up to the 2nd cluster of flowers and in one case there was another stem going further up making 3 clusters one on top of the other. Each stout stem appears to come out of the centre of the previous cluster. Length of leaf 430 mm+, length of scape 210 mm.

1994 Nov 26th Flowering in APM block Stradbroke Sth. Gipp. H'way
Oct 28th " " T'gon Sth Reserve
30th " " Dawson Water Reserve
" " " " R'way "
1995 Apr 12th Growing in Drouin Water "
1995 Oct 15th Flowering along Clark's Road & also Downies Lane
After much study I think that although books say both male & female flowers are similar, similar is the operative word. Certainly the arrangement on the axis of the inflorescence is the same. Male flowers are arranged in clusters of 10-15 little flowers surrounded by 2 bracts that are broad at base but tapering past the flowers & much longer (± 3 times) than the flowers & ∴ quite conspicuous. Flowers pale yellowish or green. Female flowers bright golden yellow with purplish-brown bracts. Bracts around each flower & only as long as the flowers but at base of each cluster one broad bract tapering to fine point but not twice as long as flower. Female flowers in dense clusters that cover main axis of inflorescence for at least last 5 or more cm.


Male

Female.

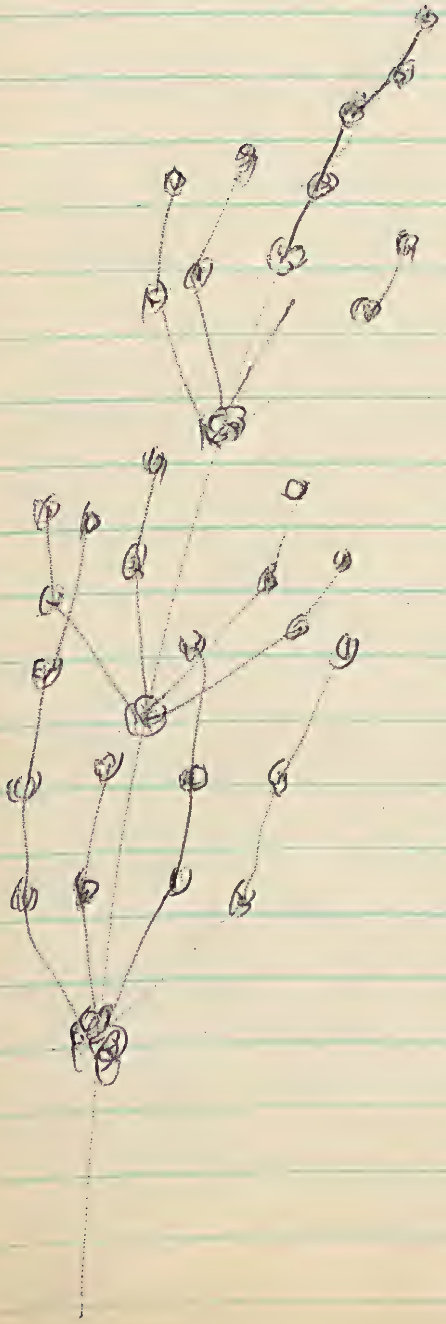
Flowers grow on different plants.

Lomandra longifolia p. 2

1995 Oct 28 Wonthaggi Heathlands
Oct 25 Mt Heddrick
Dec 12 Railway Reserve near Traralgon.
1997 Apr 5th Growing in APM Reserve - Grand Ridge Rd.
1999 Jan 23rd " on Gelantipy weekend.
2000 Dec 3rd In seed in Sweetwater Ck. Reserve.
2001 May 27 Growing in Newborough bush.
Dec 1 " " " " Sandy Ck.
2002 Oct 26th " " Traralgon Sth. Flora & Fauna Reserve
Think we had both L. longifolia var. exilis and L. longifolia var longifolia
Nov 23rd Growing at Holey Plains State Park.
2004 Apr 3 " " Colley's Rd. Block.
2006 Nov 4 " " Springsure area.

Lomandra Multiflora

1966 Sept 9th Flowering Jeeralang Rd.
1968 Oct 6th - Callignee 5th Rd.
1999 Oct. 30th Spent flowers at Edward Hunter Reserve.
Leaves about 65cm long flat 3mm wide, tough.
Leaf sheaths gradually tapering to a point.
Inflorescence branched with branches whorled.
Flowers whorled, as dried specimen can't find bracts at base of flower clusters but can find some at base where branches leave scape. Scape flattened. Bracts where visible longer than flowers.



nana
Lomandra (glauca) Page 1. (Pale)

1969 Sept 13th Flowering at Rosedale. Leaves blue green (glauca) flowers in round clusters male + female separate.

Oct 18th Flowering at Rosedale.

1991 Oct 20th Flowering in Flora + Fauna Reserve (1000 acres) at T'gon Sth. Specimens sent to Dr. Parsons + identified by Neville Walsh as Lomandra nana. L. glauca does not now grow in Victoria. See "Flora of Australia".

See 2nd page.

1994 Oct 28th Flowering in T'gon Sth Reserve.

1995 Oct 15th Plants growing along Clark's Road.
Flora of Victoria says we do have L. glauca in Victoria + in grid T. Have checked this plant out.
Leaf sheaf ± abruptly tapered to top leaf apex ~~a point~~ rounded - truncate ~~apex~~ to broadly acute in L. glauca.
While leaf sheaf narrowing gradually at top + leaf apex obtuse or truncate in L. nana.
Leaves in L. nana often curved and always blue green. I also think the groups of leaves are well out of ground before separating but cannot find out if L glauca does the same.

1995 Oct. 28. Wonthaggi Heathlands

2016 Nov 25 John Topp brought specimen I think is L. nana because leaves are up 10cm long, definitely blue green, curved and the striations on the leaves inconspicuous as shown on C.D. Fruit was about 6mm in diam. Leaves only ±1mm wide. Leaf sheath gradually tapering to fine point, whitish.

Lomandra nana. Page 2

1991 Sept. Flowering in 1000 acres off Sunday Road. Sent specimens to Dr Parsons who sent them on to Neville Walsh. Leaves are bluish green and flowers are somewhat like L. filiformis for the raceme or panicle one but the female one is a very light small ball down in junction of leaves. See Flora of Australia for the bracts on the rootlike structure. L. glauca is not recorded for Victoria. See letter overpage from Neville Walsh.

Department of Conservation Forests & Lands

Royal Botanic Gardens
and National Herbarium

Birdwood Avenue
South Yarra Victoria 3141
Telephone (03) 650 9424
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Your Ref:
In reply
please quote:
Contact:

O.&B. Thompson
PO Box 644
Traralgon 3844

7 Nov. 1991

Dear Ben & Ollie,

As you predicted on Monday, your Lomandra specimen arrived via Bob Parsons. It is L. nana (L. glauca appears to come no further south than Sydney area and L. collina is a western Vic species – apart from their relative distributions there are real differences in the leaf apex and the fibrous sheaths).

I showed the Caladenia (collected near the peat-operations area) to Tim Entwistle who is struggling with the Orchidaceae for the flora of Victoria. He agrees it is C. carnea albeit a small one rather than C. pusilla which usually has rather blunter segments than the one I collected and flowers a little smaller again.

Ollie, I dont know if you remember that very small-flowered Viola which was at the Ben Winch Swamp site but it is V. hederacea subsp. fuscoviolacea. This is a very interesting record as that subsp. is typically a subalpine or alpine one. The swamp site would appear to be the first lowland occurrence in Vic, although it occurs at low altitudes in Tas. It is very likely that it will be promoted to a species in its own right in the not-too-distant future. Flora of NSW calls it Viola sp. A.

As far as our specimens can show, your Melaleuca parvistaminea

PTO

discovery is the first for 'T'. The closest populations appear to be at Glenmaggie and about opposite the Stratford Hwy Park. Records from more western sites (Healesville, Seymour, Nagambie etc) are likely to be escapees from cultivation apparently - although I'm not sure how this is likely to be so.

I spoke to John Eichler yesterday, mentioning the Rulingia business and he thinks James Turner is aware of at least 3 other sites for the plant, but only one it seems on public (but not reserved) land. I'll pass this info. on to Max.

It was beaut to meet you both, and Iris, the other day, many thanks for your hospitality and refreshments.

With best wishes

Neville.

Lomatia Frazerii

1969 Feb 9th Flowering in Beech Gully up creek
Nov 2nd Tree with seeds on it.
1970 Aug 29th Plants in Darlamurla - not flowering.
1972 July 22 " " Fairy Dell
1973 Mch 17 " at Lake Tali Khan. in bud.
June 23rd " " Darlamurla.
1993 Jan 31 Plants growing in Errinundra N.P.
1995 Jan 15 " " on Dargo weekend.
1997 Jan 18th " " on Livingstone Ck Track & Mt Nugong.

Lomatia Ilicifolia (Holly)

1967 Jan 1st Flowering in our reserve. Covered with ants
Jan 4th Also flowering at Gormandale
Dec 11th Flowering in gravel reserve in A.P.M. Ground
has been bulldozed & then burnt. Beautiful
plant with about 20 flowering stalks.
1970 Jan 24th Flowering along Bruthern Road.
1993 Jan 30 Plants growing in Errinundra N.P.
1995 Oct 25 " " Mt Heddrick

Lomatia myricoides (Tree)

1968 Oct 13th Tree growing along bank of Stoney Creek. Leaves app. 4" long, lanceolate, dark green. Tree about 7-8 ft high rather open with fairly dark branches. Have not seen in flower yet.

1970 Jan 26th Flowering along road to Benambra in Wulgulmerang area.

1991 Jan 27th Plant growing & flowering at Little River Falls near Gelantipy.

1992 Jan 25th Flowering along road from Angler's Rest to Buckety Plain.

1994 Nov 9th Flowering on Licola weekend

1995 Jan 15th " " Dargo "

1999 " 23rd Recorded on Gelantipy weekend.

* Lophopyrum (elongatum). ponticum

(Thinopyrum elongatum) Tall Wheatgrass.

1993 Mch. 13. This plant was Agropyron elongatum.
Growing on Heyfield/Toongabbie Road (backway)
beside creek going via Dawson.
Tall plant with a spikelike inflorescence with
large wheatlike spikelets.
Inflorescence a spike. Spikelets with one edge of
both rows of lemmas against the axis. Glumes
present & well developed. Lemmas awnless.
Rhachis of inflorescence 1.5 m or more. Plant ± 6ft high.
Ligule Δ shaped. Florets leave glumes on plant.

1993 Aug 9th In Grasses of N.S.W. it states this plant which was
originally Agropyron elongatum was placed in
Lophopyrum by Love but retained in Thinopyrum
by Barkworth & Dewey. In Census - 4th ed - the
Agropyrons are divided in several different genera
with *A. elongatum = *Lophopyrum elongatum. So
I will abide by Census

2003 June Name change in 5th ed of Census

Lotus angusstissimus Narrow-leaf Lotus

1995 Apr 12th Growing in Drouin Water Reserve
2001 Dec " " Sandy Ck Bush, Newborough.

*Lotus Corniculatus (Bird's-foot Trefoil)

1967 Jan 4th. Flowering along Gormandale Road.
1990 Dec 15th " on Bush Block on Willung Road.
Leaflets three at top of ~~pod~~ stem + two at base like leafy stipules. Flowers " in cluster.
Pods 2½ - 3 times longer than calyx.

1994 Sept 9. There is a new name ~~for~~ Lotus corniculatus var. tenuifoluis for what was Lotus tenuis

* uliginosus

Lotus (pedunculatus) Greater Birds-foot Trefoil.

1987 Jan. 14 Flowering along Downie's Lane near Gravel Reserve. Leaves – leaflets 5, lowest pair close to stem and resembling leafy stipules. Flowers in clusters on long peduncles, filaments alternating long + short. Pods terete, straight with membranous partitions. Stems erect or ascending, <u>hollow</u> for this species, leaflets more than 1½ cm., calyx-teeth spreading in bud, pod 2-3 cm long. Pods come from centre of flower cluster .

1989 Dec 13th Flowering along Downie's Lane.

1991 Jan 22 " " " "

1994 Dec 21st " " " "

It is difficult to key out Lotus from Trifolium when the books say Lotus have 5 leaflets with the lower 2 smaller + sessile to main stem while Trifolium has 3 leaflets + 2 leaf-like stipules. However Lotus leaves are ± pointed + entire while Trifolium are toothed to some degree + rounded at apex. The long peduncle in this species is glabrous even though most of the plant has long hairs. Good illustration of this species in 'A Field Guide in Colour to Wild Flowers' (German Book) P. 160.

1997 Apr. 5th Growing in A.P.M. Reserve - Grand Ridge Road.

* Lotus (Suaveolens.) Subbiflorus Hairy Bird's-foot Trefoil.

2000 Apr 11th Growing with 2 flowers at Heyfield Wetland.

2002 Nov 14th " " Railway Reservoir Reserve, Tyers.

2003 June Name change in " " Census

Ludwigia peploides Clove-strip

1991 Feb 23rd. According to Helen Aston & Dr. Willis the Australian material is all ssp. montenvidensis.
Plant growing on Sale Common in seed at this time. Very good illustration in Helen Aston's book. Seed most unusual – long tube at least 1" long, spreading at top to accommodate 5 sepals that are persistant

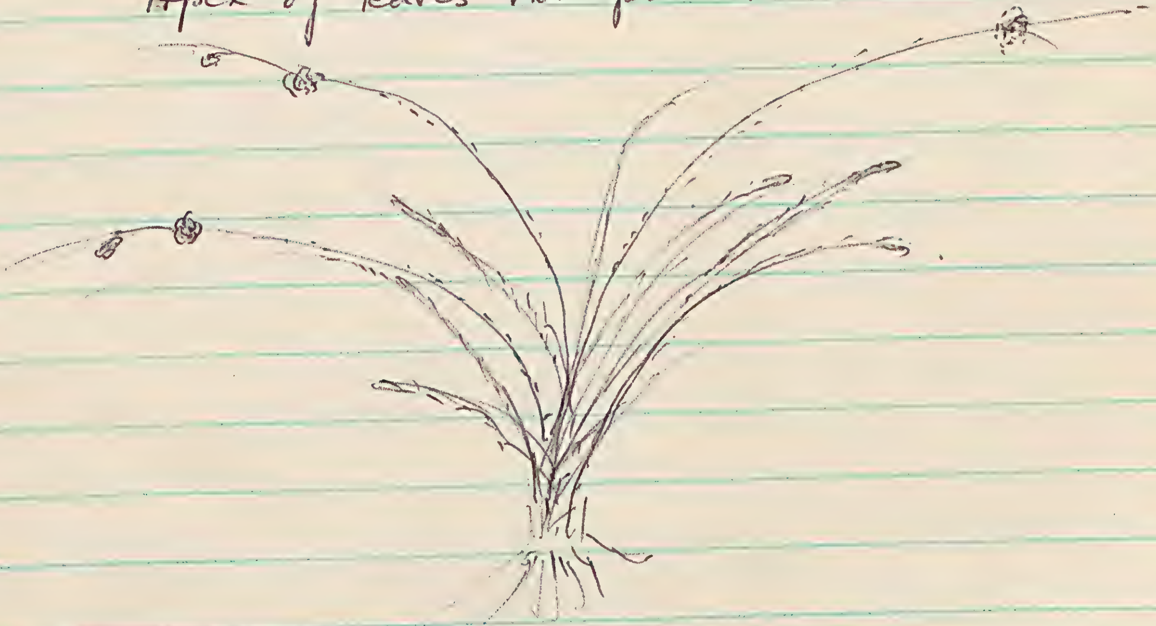
Leaves look bit like portulaca plant. Grows in swampy areas but not actually in water where we found it. L. peploides.
Leaves on long petioles ±1", entire broad lanceolate.
Flowers stalks ±1½", flowers yellow with buttercup like petals & sepals 5-12mm long. Flowers from leaf bases; branches light green, leaves alternate. Whole plant soft & easily withers.

Luzula. campestris Field Woodrush.

1994 Nov 1 Growing in Casuarina Reserve Fulham

Luzula. (flaccida) meridionalis var flaccida

1994 May 1 Growing in Austen's land near Darlamarla.
Identified by Andrew Pagent.
Plant with weak grasslike leaves and Cypress or Juncus-like flowers.
Leaves soft + turning backwards. Margins of leaves with long hairs. Flower cluster with 2 bracts one much longer. Some culms with one cluster of flowers, others with one larger cluster + then one small cluster. Where more than one cluster then only 1 long bract. All these on one plant.
Apex of leaves not pointed but blunt.



2003 June Name change in 4th ed of Census

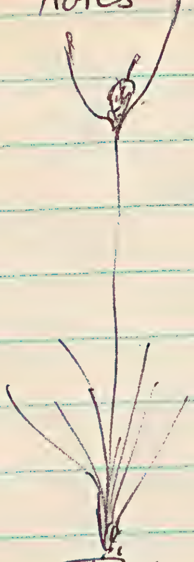
Luzula meridionalis Common Woodrush

2002 Oct 5th Growing in Crinigan Road Reserve.

Luzula modesta   Southern Woodrush

1996 Jan 19. Plants in flower on Paw Paw Plain, Lanky's Plain at Mt. Hotham.

Notes + description in book on grasses & rushes



1997 Jan 19' Plants growing on Bentley's Plain.

Lycopodiella lateralis
(Lycopodium lateral~~is~~e) Slender Clubmoss

1967 Jan Anderson's Track.
1982 Jan 12 Plant with clubs on it. Growing in swampy area near Yallourn Pump House.

Lycopodium deuterodensum - Bushy Club Moss.

1969	May 18th	Willung South.
1970	Mch 7th	Heathlands at Waratah Bay with clubs.
	Aug 29th	Darlamurla

Lycopodium fastigiatum Mountain or Alpine Clubmoss

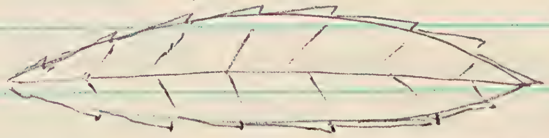
1967	Jan 31st	Mt Erica with clubs.
1969	Nov.	Mt. Baw Baw no clubs.
1992	Jan 30th	Mt Howitt area.
	Feb	Mt. St. Gwinear
1995	Jan 15th	Dargo Weekend.
1996	" 20th	Hotham "

Lycopodium scariosum Spreading Club-moss

1968 Jan 18th Mt. Baw Baw

Lycopus australis — Australian Gipsywort

1991 Apr. 13th Plant growing along unmade road near Wilson's property at Willung South. Flowers have finished but fruit still on plants. Flowers in whirl around stem at leaf bases. Calyx has very pointed tips that give the spent flowers a very spiky look. Fruit is divided into 4 sections.
Stems ~~is~~ angled and ribbed on each face.
Leaves at least 6cm long lanceolate with distant teeth. Leaves taper into stems and are opposite, just two at each whirl of flowers. Veins conspicuous on both sides of leaves.



leaf longer in proportion
8cm x 1.5cm

Whole plant like a mint plant but leaves not aromatic, though pleasant odour.

We have also found plants at camp area near creek at Licola and also along Butcher's River near Gelantipy. Apparently fairly common plant in Victoria.

1998 Apr. 6 Growing on bank of Lake Narracan near Water Skiing area. Plant in seed.

2003 Apr 5th Flowering in McLeods Morass at Bairnsdale. Brought by John Topp. Flowers of ± 10 but sharp teeth on leaves distinguishing feature from mints & not aromatic. Flowers white.

Lyperanthus Suaveolens (Brown-beak)

1966 19th Sept Flowering Opp. Chester Park.
Leaf:- Lanceolate light green inside, dark green outside.
Spotted brown + fairly flat.
Scape:- Stem brown 10 cm. 4 flowers on scape.
Dorsal Sepal:- Bending forward approx same length, though at the base than lateral sepals; pointed at tip.
Lateral Petals:- All petals + sepals same length. approx 2 cm. Also same maroon color. All narrow. Pointing up.
" Sepals:- As above only pointing down.
Labellum :- Yellow but lateral lobes red + ½ way down labellum. Labellum curved in semi-circle. Through strong glass labellum appears to be composed of many swellings all touching.
Column:- Winged below bend, yellow and tip pointed.
Each flower has sheathing bract + long ovary.

1967 Aug 13th. Leaves fully developed and buds about 8" high, on both sides of the road at Chester Park.
Sept 24th First flowers opp. Chester Park
Oct 2nd Flowering profusely at " "

1968 Oct 6th " at " "
23rd " on Clarke's Road. Quite a number of plants flowering.

1969 Sept 3rd Flowering at Wilson's Prom.
Oct 19th " Clarke's Rd. Labellum not so conspicuously knobbly.

1970 Sept 19th Flowers almost completely out at Chester Park.

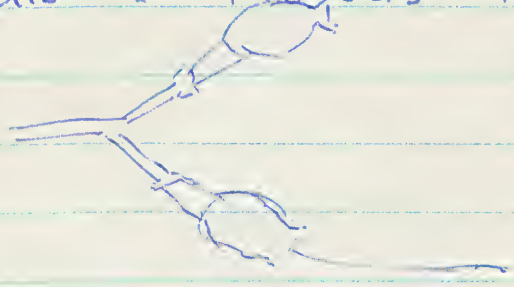
1971 Oct 24th Flowering at Reid's Road Corner

1972 Sept 10th In bud. at Rosedale

2003 Oct 25th Flowering Big Tower Rd. Mullungdung.

Lysiana exocarpi Harlequin Mistletoe

1971 Aug 30th Plant growing at Mrs Bennetts at Stawell but think we saw it other places in Grampians.
Plant grows in clump. Leaves very long up to 15 cms on specimen. Also narrow 5 mm wide. Leaves yellowish green with reddish margins and tending to twist - which may be due to drying of specimen. Stems very reddish. Flowers two.



jointing slightly exaggerated.

*

Lysimachia vulgaris — Loosestrife or Willow Herb.

1988 Mch 3rd Plant flowering along back between ponds 2 and 3 from eastern end of Moe Sewerage Farm.

" April 19th Collected further specimens for Dr. Parsons.

1990 Feb. 18 Above plant flowering well; A perennial. Flowers forming terminal, pyramidal clusters of bright yellow open bell-shaped flowers with many flowers. Leaves dark green above + lighter green below, leaves go lax after picking - hot day. Leaves opposite. Flower stalks coming in 3 around stem at point where opposite leaves are. Final section of flower cluster has a single long flower spike from centre of 3 branches of flowers.
Individual flower stalks not in 3s. but they do have a small leaf-like bract where each pedicel takes off. Calyx has 5 pointed lobes that are long tapering. Fruit is superior above junction of calyx + stem. Leaves about 9 cm at base of flower cluster, probably larger low down, margin entire (I think) but specimen both badly chewed. Flowers 5 petals. Stamens broadened towards base + then united for lower portion around ovary. Style remains on fruit.

Lythrum Hyssopifolia (Loose-strife)

1967 April 16th Flowering along Clark's Rd. Also flowering
around home over Xmas period.
Dec 10th Flowering LeRoy Rd.

1991 Jan 10th Flowering along Downies Lane in area
that becomes flooded.
Leaves alternate, petals purple 5, calyx
5 points well separated with tufts of hairs
between points. Flowers single at leaf bases
of upper leaves. Flora of Australia P. 102 Vol. 18
calyx. Calyx lobes tend to spread
out & flower has short tube just showing
above calyx before petals spread. Plant
about 2ft tall.

1993 Feb. 5th Flowering again along Downies Lane, plants about
2ft long.

1993 Mch 13th Flowering along Henderson's Rd, Toongabbie.
Plants quite tall about 18" high.

1994 Nov 1. Flowering in Casuarina Reserve Fulham
Oct 28 " " Dawson R'way Reserve
1995 Dec 12 " " Railway Reserve near Traralgon
1996 Dec " " Old Melb Rd near Latrobe Rd, Morwell
2001 Dec 1 " " Sandy Ck bush, Newborough.

Lythrum salicaria — Purple Loosestrife.

1974 Jan 29th Flowering on side of road not very far from Blue Duck camping area.

1977 March 20 Flowering along Old Melbourne Road at Morwell River. Leaves definitely pointed, plant 2'6" high app.

1993 Feb 1st Plants flowering beautifully + in abundance in boggy or marshy area in Errinundra N.P. on Hensleigh Ck. Rd on Coast Range Rd. Think it was the first.

1995 Jan 15th Recorded on Dargo weekend.

1991 Jan 29th " " Gelantipy weekend.

1999 " 23rd " " " " Identified from specimen brought back.

2003 Mar Recorded in Eel Hole Ck/Cemetery Conservation Reserve Management Plan.

Botany Group

Some additional facts about Lythrum salicaria that may interest you. From "Flowers in Britain " L.J.F. Brimble Editor of "Nature " with all proper qualifications.

The purple loosestrife has evolved a very elaborate method of ensuring polination, cross-polination.
There are three forms of flowers , each form on a different plant. Both stamens and styles project so far that an insect lands directly on them. Each flower has 12 stamens in two whorls of six, each whorl differing in length.
Then again, the styles differ in length from either whorl of stamens, in three distinct ways. In one kind of flower the styles project beyond the stamens, (long-styled) in the second one they come half way between the short and the long stamens, (mid-styled); in the third case the styles are very short (short-styled). Since the visiting insect enters all flowers in the same way and to the same depth, it follows that long styled flowers will be pollinated by mid and short styled flowers; mid styled flowers by long and short styled flowers; and short styled flowers by long and mid styled flowers. This is a remarkable adaption for ensuring cross-pollination. The reason for this pollination is because the style does not become compatible with its own pollen & there can only be pollinated by the other two styled flowers. No self pollination.
As you have the plants invthe garden you can check this ?
We have not noticed any seeds on our plants as they all came from the one source & are all short-styled flowers.
Being world wide and ancient plants of course they have been tried and used by herbalists and much esteemed by same.
Valuable in diarrhoea and dysentry and fevers.
As an eye lotion for preserving the sight it is superior to Eyebright. The distilled water may be applied to eye accidents and ailments, even in blindness. Cleans and heals ulcers and sores. Used as a gargle for quinsy and sore throats.

Modern American Herbal by Mrs Greave. 1977.

<u>Please Ollie, put some</u> of its running roots in a pot for me !

" An exceedingly handsome plant of aquatic places growing among the sedges and rushes. Europe, America ? India & of course, Australia.

Ellen Lyndon

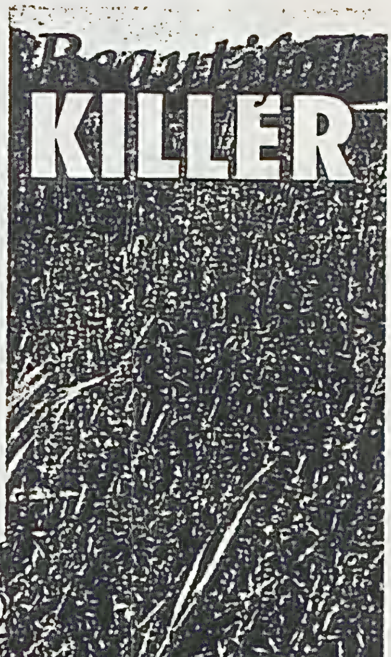
Do you know this flower?

The brochure calls it a "Beautiful Killer," and its victims are the plagued wetlands of the Okanagan and Lower Mainland, and now Vancouver Island. The predator is a sinister, spiky flower called purple loosestrife *(Lythrum salicaria)*, introduced from Europe in the 19th century because it was pretty.

The plant has moved relentlessly from Eastern Canada, and now threatens British Columbia lakes and swamps, stream banks, irrigation canals, ditches, even purification ponds. Burnaby Lake, in the Lower Mainland municipality of Burnaby, could become a large bog within 30 years.

The plant chokes everything out. First, all other plant life. Then, as roots spread thickly underwater, no more fish. Nothing will eat the loosestrife, so there's no food. Eventually no songbirds, no waterfowl, no shorebirds. No beaver. No deer.

A loosestrife-leaf-eating beetle was brought over from Europe last summer to do its stuff. And the Royal British Columbia Museum set up an awareness display of purple loosestrife in its lobby. The message: get to know this plant, report it to the Canadian Wildlife Federation, hack it down, rip it up.



Loosestrife: the "Beautiful Killer."

from a Canadian magazine
Beautiful British Columbia
current issue May? 1994.
E.L.

The purple patch beyond all life's strife

IT IS SELDOM that I use the common name of a plant in preference to its botanical name, but by "purple loosestrife" I am completely seduced. An obviously European name, here it is applied to one of our two eastern Australian lythrums, *L. salicaria*. The other is the smaller, annual *L. hyssopifolia*, the "small loosestrife".

L. salicaria is a perennial herb growing to around 60 centimetres in height and dying back to a rootstock in winter. In habit it is upright and leafy, with leaves lush green and clasped close to the stems. The magenta flowers, around two centimetres across, are frilly and densely packed up long stems that rise some 50 to 70 centimetres above the leaves.

Early summer flowering will be followed by late summer to autumn displays if you simply cut back the dead flowering stems to their bases after that first flowering. New, vigorous foliage growth will elongate into a mist of magenta within a few weeks, making this one of the longest-flowering cottage garden perennials. While purple loosestrife is found naturally on streamsides or swamp margins, it is just as effective bordering pathways in drier gardens.

Evidently it is a favorite of butterflies and native bees. Recently, in the early evening, I watched as small grass blues and the larger, now naturalised, cabbage whites fed on the nectar flow for more than an hour. Also, two species of native bee, one with a chunky light grey thorax and an abdomen transverse-striped yellow, the other patterned with a mosaic of rich blue and black, alternated between the loosestrife and a *Eucalyptus viminalis* nearby.

I must admit to neglect of this lythrum's horticultural potential, as hardiness and beauty aligned to that mysterious perennial quality are assets to be treasured in any garden.

And what of the name, loosestrife? Well, members of its family have long been known for their herbal attributes, two being the lowering of blood sugar levels and relief of liver complaints. The "loosing" (or losing) of strife perhaps then is appropriate?

— Bill Molyneux

I FIRST saw purple loosestrife many years ago, when my father brought home a spray of flowers strange to us all. We thought at first that it was a garden escaper, but my father said it was a bushy plant growing in water beside the road. That helped us to identify it as a native plant of wet or damp places over most of south-eastern Australia.

It was many years before I saw the plant again. We were on the way to a naturalists' camp near Suggan Buggan when we saw bright color through the trees, and stopped to look. There, in the edge of a pool, was a blaze of the remembered mauve-pink flowers, mixed with delicate white flowers of gipsywort.

Photographed and added to my memories, I did not see it again until I visited a friend's garden in Warragul, where it was too robust for the position where it had been planted. When it was moved I was given some roots, which did not grow.

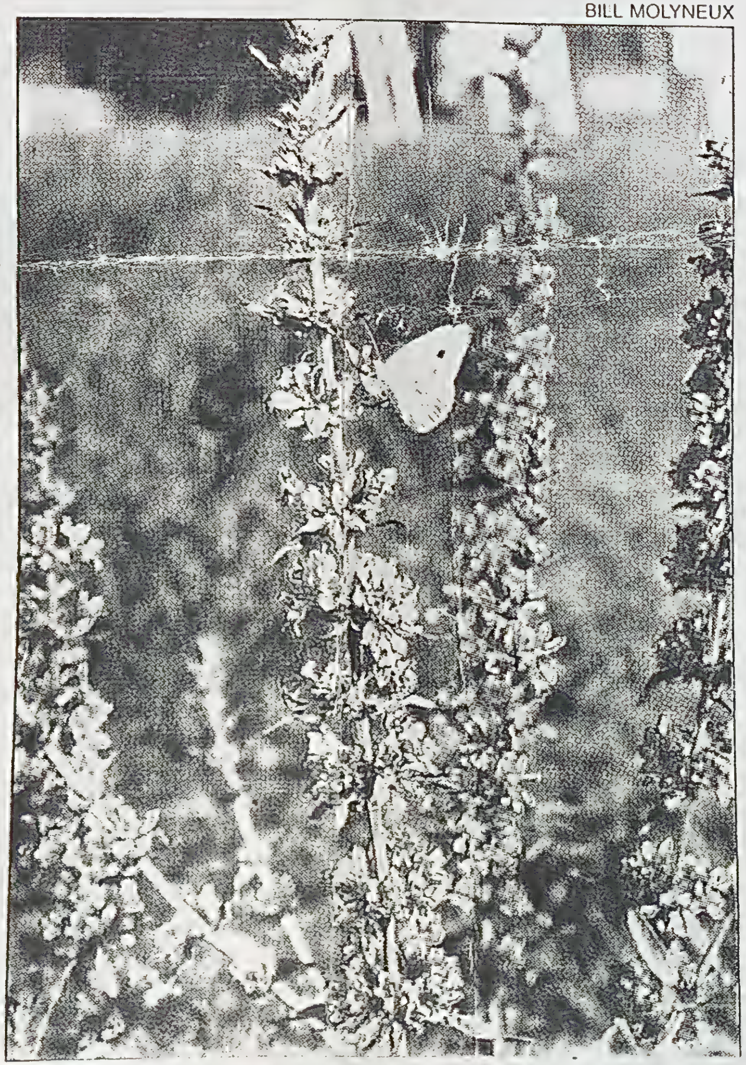
"But", said my friend of the Warragul garden, "when we put sprays of flowers in water, some of them grew." So she gave me some, and several put out white roots in the vase. Planted out, one grew to a bush nearly two metres high and more than a metre wide that covered itself in flowers every spring, while remaining invisible underground in winter.

I have found that the best way to grow it is to pick off young leafy shoots, five to 10 centimetres long, which shoot out after the flowers fall. About seven centimetres long is best. Cut these off cleanly and put them in water in a china vase. The roots can grow in the dark, which is normal for them, but stand the vase in a window because the leaves need light.

Once healthy tufts of roots have appeared, in three or four weeks, pot them up for the winter, then plant them in a damp spot next spring. The mature plants will reappear and be covered with flowers in late spring, but cuttings are unlikely to flower before their second year.

— Jean Galbraith

BILL MOLYNEUX



Cephalomanes caudatum
(Macroglena caudata) Jungle Bristle Fern

1981 Nov 27th Plant growing in Bullock Creek gully up from the corner up along Bullock Link Track in Labertouche Forest (Map. 64)

2003 June Name change in 9th ed. Census

Maireana ~~Kochia~~ appressa.
Kochia tomentosa.

1972 Aug 28 Plant growing near Salt Lake near Natimuk. Branches sturdy white hairy. Leaves growing in clusters along branch. Leaves pointed curved upwards till almost meeting, pitted with base of hairs which are relatively short. Not sure of this identification as no flowers & specimen rather dry & immature.

1975 Jan. Change to ~~K.~~ Maireana appressa.
P.G. Wilson Nuytsia 2 (1) 1975
[C. Beauglehole & R. Parsons]

Malva nicaensis Mallow / Nice

1993 Mch 20th Flowering on Knight's property along the Tanjil River. Leaves with stiff simple hairs, orbicular-cordate to app 8 cm broad on long petioles with 5-7 rounded crenate lobes. Flower in axillary clusters; calyx lobes ovate almost covering ripe fruit & so concealing it. Bracteoles ovate-acute attached about halfway up calyx. Petals light purplish dark at apex of petals. Petals twice as long as calyx indented at apex. Fruitlets with radiating grooves & sections crosswise. Plant also grows on farm

Ian Hyndman
P.O Box 285
Beechworth 3747
03 5728 1556.

(Jean Galbraith's records)

T. lymita epic Golden beach 96 →

C. aurant.. 29/9/07 Clematis Bland Bay Res. Bairnsdale Field Nats

Brian Ward

Sue Taylor – Diuris Gifford – not in SL?

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Malva parviflora Small-flower Mallow

2002 Oct 14th Flowering in Railway Reservoir Reserve, T'gon.

LR/118/6mm.

uct TLR/118/6mm.

Marsdenia rostrata   Stalked Doubah

1972 July 9th Tough climber with milky sap.
Leaves oblong tapering abruptly to a point.
Dark green shiny above & paler below.
Plant glaberous. Leaves on long stems with
kind of gland where it joins the main
stem. Seeds are supposed to be spectacular
but we could not find any. Billy Goat Bend.

July 16th Plant growing in Tarra Valley.

" 22nd " " " Fairy Dell.

1993 Jan 30 Plant growing between Combienbar & Club Terrace.

Mazus Pumilio Swamp mazus

1967 Feb 12th Flowering in sphagnum moss on Wolfe's property.
(Like little monkey flower.)
~~Oct~~ Nov 4th Flowering in Wolfe's swamp.
1968 Jan 28th " " " "
1969 Feb 16th " Rosedale flowers white.
1970 Mch 7th " along the beach edge at
Waratah Bay. Flowers quite dark in color,

*Medicago polymorpha Burr Medic

1994 Oct 20 Growing in Dawson R'way Reserve

2002 Nov 30 " " Toongabbie Wetland.

Melaleuca acuminata — Creamy Honey-myrtle.

1972 Aug 25th. Plant growing near Acacia glandulacarpa on road to Little Desert. Leaves opposite & decussate, small ¼" to ½" long, pointed, dull green. Under microscope have black dots. Fruit singly or in clusters with truncate point, tubular; small less than ¼". Wood silvery even when apparently young.

Melaleuca armillaris Giant Honey-myrtle

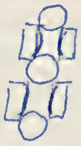
2002 Nov 30th Growing in Teengaldac Wetland.

ELB/118/6mm.

Melaleuca decussata. Totem Poles.

1971 Aug 30. Plants growing in Grampians. Seeds very characteristic They are imbedded in the stem and are supposed to look like carvings. leaves regularly decussate, pointing upwards 1/4" long narrow with revolute margins. Branches greyish white.

1972 Aug 30th Plants growing in Flat Rock area. When only just formed the seeds protrude like little wheels at right angles The imbedded appearance comes with age.



Leaves are so close as to give almost square look to stems.

1973 Sept 2nd Flowering behind the Golf Links at Bendigo.

1977 Oct 4th Plants growing in Glengraggie Flora Reserve at back of reserve. from main road. Buds on plants but very few seeds.

Cliff recorded this plant for this reserve

3/112/6mm.

Melaleuca Ericifolia (Swamp)

1966 Oct 22 Flowering Anderson's Track
1967 June 24th Shrub found at Marlo, Of course no flowers. Leaves approx ½" long (15mm), very soft, stems white & grooved. Leaves very dark green.
Oct 22nd Flowering along T'gon - Gormandale Rd.
Nov 25th " " Anderson's Track
1968 Oct 13th " at Stoney Ck. Cowwarr.
27th " T'gon Sth Res
Nov 17th " Dead Horse Gully
1969 Oct 19th " among pines between Clarke's Rd & Cochrane's Lane.
1970 Mch 7th Flowering at Waratah Bay.
Oct 11th " " Heyfield
1978 Jan Two extra species M. ternifolia Willis 2 :45 (1972) [C. Beauglehole & R. Parsons).
1994 Nov 26th Flowering at APM block Stradbroke Sth. Gipp. H'way
Oct 28th " " T'gon Sth Reserve.
30 " " Dawson Water Reserve
1995 Apr 12th Growing in Drouin " "
Oct 28th " " Wonthaggi Heathlands.
Dec 12 " " Railway Reserve near Traralgon

Melaleuca halmaturorum

1972 Aug 28th Growing near salt lakes out from Natimuk.
Very old trees with wonderful patterns & colours from peeling bark. Bark papery thin, layer of thin bark, then layer of darker coloured fibres. Leaves small about ½" long, decussate, rather dense, no vein, slightly curved backwards. Flowers terminal few together. Fruit small not many together, sometimes singly. From size of bud I would think flowers not very big.

Melaleuca lanceolata Moonah

Mountain Teatree.

1996 Feb 24th Plant flowering on Churchill Island - Club excursion. Tree supposed to be 400 yrs old. Leaves are alternate, stamens white, flowers in our specimen 3 cm long. with leafy shoot past the flower by ±3cm at time of flowering. Leaves on our specimen less than 1 cm, linear lanceolate, flat, slightly pubescent.

Willis says plants do not extend past Port Phillip Bay east. Elsie brought specimen for us.

From Darling Downs in Queensland to coast and ranges near Sydney and western slopes south to Temora in New South Wales.

Selected specimens. Queensland. DARLING DOWNS DISTRICT: 5 miles [8 km] W of Kogan, Nov 1956, *Bowles* (BRI). New South Wales. Barradine & Narrabri, Dec 1916, *Burrows* (BRI); Lane Cove R., *Fletcher* (BRI); Weddin Mtn, 6 miles [10 km] SSW of Grenfell, Mar 1956, *Constable* (BRI).

Melaleuca diosmatifolia was first described by Dumont de Courset in 1811 from cultivated material and he gave a detailed description of habit, branchlets and leaves comparing the species with *M. armillaris* and *M. ericifolia.* His description of the leaves 'Feuilles cylindriques, eparses, vertes et glabres, longues 13 a 15 millimetres, et larges de trois quarts' can only be applied to one taxon from eastern Australia although the dimensions given are slightly larger than usually found in native populations. This name predates that of *M. erubescens* Otto. Otto placed Dumont de Courset's name in synonomy in 1820.

Bentham placed this taxon under *M. ericifolia* Smith as a variety, but de Candolle and Cheel recognised it as a separate species under the name *M. erubescens* and placed *M. diosmatifolia* in synonomy, misspelling it 'diosmifolia'.

The species differs from *M. ericifolia* in having terete or slightly flattened leaves with large oil glands, no bracts, pink flowers with more stamens and longer claws but shorter free part of the filaments.

If only eastern Australian species are considered *M. fraseri* can only be placed here. The description given is within the range of variation of the species. The illustration of the staminal bundle and flower are typical of the species but the general habit indicates wider leaves. This may be due either to the plants being cultivated in very much different situations to its natural environment or to artistic license.

54. **Melaleuca parvistaminea** Byrnes, Austrobaileya 1: 75 (1984). Type: Victoria: beside Goulburn River, 4 miles [6 km] NW of Yea, Oct 1964, Muir 3549 (MEL, holo; AD, iso).

Shrub or small tree to 4 m high. Bark layered, rough. Branchlets glabrous. Leaves scattered or ternate, linear, shallowly concave above, acute to obtuse, narrowly attenuate at base, 4–11 mm long, *ca* 1 mm wide, glabrous, 3-veined, veins obscure, oil glands few but often visible; petioles to 1 mm long. Inflorescence a many-flowered, dense, axillary, terminal or subterminal spike; flowers single within each bract; rachis ovate to leaf-like at apex of spike, caducous; bracteoles absent. Calyx tube campanulate, 1–1.5 mm long, glabrous; lobes triangular, *ca* 0.5 mm long, glabrous. Petals pink at first, fading, circular or broadly ovate, with or without short claw, to 1.5 mm long. Stamens white or yellow, glabrous; claw to 0.5 mm long; filaments 4–7 attached to margin of each claw, free part to 3 mm long. Style 5–6 mm long; stigma small. Ovary *ca* 1 mm long, pubescent above. Fruit campanulate to cylindrcal, *ca* 3 mm long and wide, orifice to 2 mm diam., calyx lobes persistent becoming obscure; in a dense spike.

South-eastern Australia from Shoalhaven River, New South Wales to central Victoria.

Specimens examined. Victoria. Tinamba–Glenmaggie Rd, Oct 1973, *Willis* (MEL); Mitchells Ck at road crossing near Mitchellstown, Jun 1963, *Aston* (MEL) Hong Huggets Rd, (37°48'S, 146°51'E), Jun 1978, *Gullan* 357 & *Turner* (MEL); S side of Glenmaggie Weir, ± 5 km N of Heyfield, *Beauglehole* 43360, *Willis & Chesterfield* (MEL); ± 20 km WNW of Seymour P.O., Aug 1975, *Beauglehole* 50111 (MEL).New South Wales. between Bungonia & Marulan, Nov 1966, *Pullen* 4176 (BRI); Shoalhaven R., Tolwagn, Jan1956, *Constable* (BRI); Wallargaraugh R., Princess Hwy, Aug 1970, *Beauglehole* 33674 (MEL).

This species differs from *M. ericifolia* in having harder more fibrous bark, narrower and usually longer inflorescences and usually only 3 or 5 filaments attached to each claw. The oil glands are easily seen with a hand-lens as tubercles or black spots on dried material. Willis (1972) noted this as a possibly underscribed taxon though he considered it may have been *M. ternifolia* F. Muell. ex Miq. *M. ternifolia* is a narrow-leaved form of *M. ericifolia.*

Melaleuca parvistaminea.

1991 Oct 20th Flowering along Longford / Rosedale Rd on southern roadside where bitumen color changes. Identified by Neville Walsh. Description in "Flora of NSW". Glands on leaves obvious & raised. Quite like M ericifolia to casual glance but flowers narrower & fruits rounded at ends.

1993 Sept Collected on shore of Lake Glenmaggie - See next page.

1993 Dec 2nd " specimens on Sale Common Grid X.
At end of long broadwalk. Many plants in area had all finished flowering while M. ericifolia was still flowering. Plants were shorter & more compact than M. ericifolia, and easily seen to be different even from a distance.

1994 Nov 26. Flowering in APM block Stradbroke Sth. Gipp. H'way

1990 Oct 30 . " " Mt Heddrick identified by J. Turner.

1996 Aug 31 " " Jindivick Landcare Area - identification confirmed by Neville Scarlett & specimen sent to herbarium as it extended the range of this species

1997 Oct 4th Plants growing in Glenmaggie Flora Reserve near M. decussata.

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NATIONAL HERBARIUM OF VICTORIA
CRANBOURNE BOTANIC GARDEN

24.9.93

Ellen Lyndon
7 Steele St
Leongatha 3953

Dear madam
the plant sample with accompanying note of 21.9.93 submitted for examination has been identified as

Melaleuca parvistaminea

For many years this species has been "hiding" within M. ericifolia, until named in 1984.
I assume you would have access to the FNCV journal and if so might like to look up a note on this species in Vict. Nat. Vol. 104 No 2, pp 42-45 (1987). It is an informative article.

Sincerely

Ian Clarke

(for Chief Botanist)

Vol 104 No 2 42-45 P.
March April 1987

Specimen collected at Glenmaggie at club campout Sept 1993.

File 5.2.31

Melaleuca Squarrosa. (Scented)

1967	Jan 4th	Flowering in Callignee Hills on Blackwarry Rd.	
		Also grows at east end of T'gon Sth reserve.	
	Oct 22nd	Flowering along T'gon – C'dale Rd.	
1968	Nov 3rd	" " Anderson's Track	
	Dec 29th	" " track near Moe-Walhalla Rd.	
1969	May 24th	" at Cape Paterson.	
	Sept 4th	" " the Prom.	
1970	March 7th	" " Waratah Bay.	
	Apr. 25th	" " Venus Bay.	
	May 25th	" on Old Port Road, Willung.	
1971	Nov 12	" at Flynn.	
1995	Apr 12th	Growing at Drouin Water Reserve.	
	Oct 28th	" " Wonthaggi Heathlands	
2000	Dec 3rd	" " Sweetwater Ck. Reserve.	
2001	Aug 27th	" " Newborough bush.	
	Dec	" " " " Sandy Ck.	
2004	Apr 3	" " Colley's Rd. Block	
2006	Sept 30	" " Senenis Track.	

Melaleuca uncinata Broombush

1972 Aug 28th Plant growing in the Little Desert
Leaves about 1" long, terete and each ending in a fine point which is usually curved.
Fruits individually rather flat but round + compressed together with each fruit slightly raised at the edges but a hollow in the centre.

1973 Sept 3rd Plant growing in Whipstick - Bendigo.

Melaleuca wilsonii Lilac Honey-myrtle.

1972 Aug 20 Plant growing in Little Desert. Leaves pointing upwards ending in fine point. Leaves decussate, flat slightly curved upwards. Undersurface of leaves pitted with numerous gland-holes, usually in longitudinal lines. Branch white

Melichrus urceolatus

(Styphelia urceolata) Urn Heath

1973 Sept 3rd Flowering in Whipstick. Buds very bright deep red, White tips when open. Leaves very dense, decussate.

Melicytus dentatus

(Hymenanthera dentata) Tree Violet

1967 Aug 27th Flowering at Cowwarr.
Sept 30th Still flowering at bridge over Creek to Black's.
Nov 5th Berries on plants at Stoney Creek. Slightly flat with point on end 4 mm wide 5 mm long.
1968 Sept 3rd Flowering at Cowwarr
Oct 13th Still " " "
1969 Oct 4th Flowering at "
1970 Jan 25th Plants with capsules or berries on Cobberas. Plants only 3' high. Very woody + much branched. Leaves up to 1 cm long + 2 mm wide at apex. Leaves broadest at tip. Whole plant very rigid and stiff.
Jan 1st Trees in seed at Licola Rd.
Sept 15th Flowering outside Garden Fence.
~~Oct 17th " at Briagolong.~~
1971 Jan. 30 Plants growing at Howitt Springs and on the Mt Howitt Hike. The plants on the plains were almost prostrate + spreading right over the rocks, very woody + persistant.
1976 Jan 2. Plants growing on ledges on face of Mt Useful. These plants are about half-way

between the trees & the sprawling woody plants of Mt. Howitt. They were about 1ft high but grew right along a ledge. The plants were more like the branches of the trees at home than the woody few-leafed plants of Howitt. Branch we had didn't have spike at end.

1993 Oct 15th Plants growing on Clark's Road between Mattingley Hill Rd & junction with Hazelwood Road. in damp area.

1994 Oct 30 Plants growing in Dawson Water Reserve.

1996 Jan 20th Growing on snow plain at King's Spur turn off.

2003 Mch Recorded in Eel Hole Ck/Cemetery Conservation Reserve Management Plan.

2003 June Name change in 4th ed. of Census.

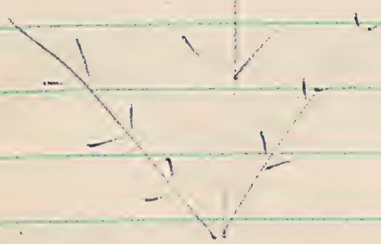
* Melilotus indicus — Sweet Melilot

1989 Mch 18th Still a few flowers on the bushes. Plant looks like bush of trefoil. Leaves trifoliate with toothed or crenulate margins. Flowers drooping, numerous in slender elongated racemes, yellow, 2-3 mm long. Plants on barrier between Toy's Backwater & the water at Inverloch.

*Melissa officinalis — Balm

1997 Dec 19th Plant growing along Downies Lane. It also grows along Traralgon Creek but Ollie doesn't remember it along Stony Creek – on our property.
Upright shrub of many side branches off main branches hence giving it the effect of a dense shrub. Leaves paired at widely separated intervals.
Flowers app 6, stalked around branch at leaf petiole base.
Calyx long - at least 5 mm – with 5 teeth, 3 up & 2 down with deeper divisions between the 3 & 2. Don't know flower as none present but Ollie thinks whitish.
Leaves regularly serrated & ovate in shape with point at apex. Veins very prominent on both surfaces; finely ciliate on margins. Branches square.
Leaves mildly scented - not mint like perhaps lemony, hairy.

'97 Dec 20th Flowering on Downies Lane
Buds yellow & not protruding beyond calyx. Flowers white with pinkish or purplish tinge; twice as long as calyx with tube very narrow at calyx apex but widening to 4mm & across petals 7mm
Flowers 2 up & 3 down rounded at apex petals; ring of hairs at opening to tube & down tube.



Stamens 4, 2 large & 2 smaller & shorter
Style with 2 branches.

Sent specimen to Dr Parsons as Cliff only has it recorded for the Wilsons Prom area.

Mentha. diemenica Slender Mint.

1993 Jan 30 Growing & flowering between Cambienbar & Club Terrace

1996 Dec Growing on Old Melb Rd near Latrobe Road, Morwell.

1999 Jan 23rd " " Gelantipy weekend. Identified from specimen brought back.

Mentha laxiflora Forest Mint

1969 Nov 2nd Flowering at Briagalong.
1972 Jan 30th - at headwaters of the McAlister River

Mentha pulegium   Pennyroyal.

1996 Dec Growing in Railway Reservoir Conservation Reserve, Traralgon.
1997 Jan 4" Flowering down near the creek on our property.
2003 Apr 4" Flowering in Railway Reservoir Reserve, Traralgon. Flowers blue, in whorls, ~~leaves~~ Key says calyx lobes villous or glabrous inner surface & flowers are so small I cannot possible find out. Other part says flowers 3-8 per axil or few-many per axil. As our specimen definitely had many flowers I used that section of key. Pedicles shorter than calyx. Leaves obovate, margins entire. Corolla longer than calyx & leaves toothed but not sharply. Similar plant with corolla white & ± as long as calyx & leaves sharply toothed is the Australian Gypsywort. (Lycopus).
2005 Mch 3 Flowering in Railway Reservoir Cons. Res., T'gon.

Micrantheum hexandrum

1973 Oct 28th Flowering in Channel Country of Avon River.

1983 July 23rd Just commencing to flower on bank of Tanjil River near water race. Spreading bush with leaves in threes, flowers small white, axillary. Male & female organs on separate flowers and probably separate plants.

1990 Jan 8 Plants growing on Gorge Walk at Mt Buffalo.

1992 Jan 25 Plants growing near Mitta Mitta River at Parking area on way to high country from Angler's Rest.

Microleana stipoides Weeping Grass

1993 Jan 30 Growing in Errinundra & Combienbar areas.
Also grows on Andrea's place at Callignee Sth.
1993 Feb 13 Growing near Dam Wall on Tanjil River area.
1992 Aug. Growing in Casuarine Woodland Railway Reserve Fulham. Leaf broad & lax. Grass of nodding stature & graceful.

1994 Nov 26th Seeds in APM block Stradbroke Sth. Gipp. Hway.
Oct 28th " " T'gon Sth Reserve
Nov 1 " " Casuarina " Fulham
1995 Oct 28 Growing on Wonthaggi Heathlands
Dec 12 " " Railway Reserve near Traralgon.
1996 Nov 7th " " Giffard Rifle Range.
1997 Apr 15th " " APM Reserve - Grand Ridge Rd.
2000 Dec 3rd " " Sweetwater Ck. Reserve.
2001 Aug 27th " " Newborough bush.

Micromyrtus ciliatus Fringed Heath Myrtle

1971 Aug 28th Flowering mostly on the lower country of the Grampians - esp. towards Welshman's Hill. Flowers in clusters along long (1ft) spreading branches. Plants about 2ft. high and dense and spreading (See photograph) Flowers cup shaped, white to pinkish, bud globular - fat. Sepals 5 & petals 5, sepals very short, flowers almost sessile.
Leaves oval and pointing upwards so that they cover the branch. Leaves sessile I think, decussate, and only very small, about 2-3 mm long & 1 mm wide. but very close together.

1972 Aug 28th Flowering in Little Desert.
29th " " Grampians
1973 Sept 3rd " " One Tree Hill - Bendigo.
1991 Oct 12th " on Mt Heddrick on rocky area, rather low plants only about 1ft high.
2006 Sept 30 Flowering at Mt. Heddrick.

aff lanceolata. M. (Yam)

Microseris (Scapigera)

1966 Sept 9 Flowering along Clark's Rd.
Oct 30th still flowering
1967 Sept 30th Flowering along Clarke's Rd.
Oct 22nd " " " "
1968 Oct 27th " " Call Sth. Rd.
Nov 10th " " Clarke's Rd.
1969 Sept 13th " at Longford & Rosedale.
25th " " Glenmaggie [?]
Oct 19th " Clarke's Road.
1970 Jan 1st " at Tamboritha Saddle.
Jan 26th " at Wulgulmerang.
1971 Jan 17th " at Mt Useful. Lovely large blooms.
Jan 30th Flowering abundantly at Howitt Springs and on Mt Howitt Hike.
Oct 23rd Flowering Morwell Nat. Park.
24th " at Reids Corner.
1994 Oct 28th " " T'gon Sth Reserve.
" 30 " " Dawson R'way Reserve.
Nov 9th " at Licola weekend
1995 Jan 15th " " Dargo "
1996 " 20th " " Hotham "
1997 " 18th " " Bentley's Plain.
2003 June In 7th ed of Census Three aff lanceolata 1-3. depending on distribution – Mtn (2) Basalt Plains (1) Foothills (3).

Microseris aff. lanceolata

Microseris lanceolata is probably a Tasmanian species; but there is also *M. scapigera* in New Zealand. Therefore it is necessary to sort all the species out before giving names to those in Victoria. So we have *Microseris sp. 1, M. sp.2* and *M. sp.3.*

Key :- 1. Seed mostly7-10 mm. long; pappus scales 30 - 60, hardly widened at base; ligules to about 12 mm. long; fibrous roots usually present; leaves linear, sometimes with linear lobes, mostly basalt plains. Microseris sp. 1

1. Seeds usually less than 7 mm. long; pappus scales to about 20, noticeably widened at base; ligules usually more than 15 mm. long; fibrous roots few or absent; leaves variable. 2

2,Pappus scales 10 - 20, about 0.5 mm wide at base; roots long and fleshy, not tuberous; alpine & subalpine. Microseris sp. 2

2 Pappus scales usually about 10, 0.5 -0.8 mm wide at base; roots tuberous; widespread. Microseris sp. 3

It looks as if our species will be *Microseris sp. 3* from the distribution records.

MICROSERIS

Willis has only the one species which has now been divided into three but these have not yet been given names.and are just sp. 1, sp. 2 and sp.3. They are mainly divided by the cypelas and pappus scales; but for us I think the distribution is an indication of the species. *Microseris* sp.1 is recorded for the basalt plains of western Victoria, M. sp.2 alpine and sub-alpine herbfields and M sp.3 Foothills. *Microseris sp. 3* is the only one with a common name and is the Yam Daisy or Murrnong and is the one that is widespread in Victoria

Microsorium (diversifolia) (Colda) pustulatum

~~Phymatodes~~ diversifolium Kangaroo Fern.

1966	Feb 27th	Bulga Park
1967	Sept 10th	Morwell Nat. Park
1968	Feb 4	Yerang Park
	18th	Traralgon Creek Gully.
	Apr. 7th	Cook's Reserve
1969	Feb 9.	" "
1970	Apr 18th	Toronga Falls & Glen Nayook.
1972	July 16th	Tarra Valley.
1993	Jan 31	Errinundra.

Microsium scandens. Fragrant Fern

1972 July 29th Fairy Dell. This plant is said to have a fragrance when wet.

1993 Jan 30 Combien bar back towards Club Terrace from the camp.

arenaria

Microtis (biloba) Sand Onion-orchid

1969 Nov 8th flowering in swamp in heathlands at Wilson's Prom. This plant had the appearance of being big in comparison with other species, though not nearly as many flowers as M. atrata. Flowers green, labellum divided at tip with slightly irregular margins.
Good close up flower on slide.

1978 Jan. Synonymous with M. unifolia & therefore deleted. (D. Jones Orchadian 5 (6): 84 (1976)
[C. Beauglehole + R. Parsons]
~~In Cliff's list we received 4/12/83 M. ob~~
Census 1993 gives M. arenaria.

1995 Oct 28th Flowering on the Wonthaggi Heathlands. Identified by Andrew Paget. Andrew says this flower is much more pointed in shape than M. unifolia.

1996 Oct 12th Flowering at Paradise Beach at 2nd pipeline in N.P.

Microtis Parvaflora.

1966 Oct 29th Flowering on our hill.
1967 Jan Flowering in paddock opp. O. Lades.
Scape :- 20 cm
Inflorescence :- 8 cm fairly compact
Dorsal Sepal :- 3 mm, hooded.
Lateral Petals :- to side of dorsal sepal giving flanged effect.
" Sepals :- Recurved to make circle 3 mm.
Labellum :- 3 mm, 2 calli at base, pointed or ovate.
Ovary :- 5 mm
Column :- 1 mm green.
Leaf :- 16 cm less than scape.
Nov 4th Flowering Wolfe's swamp.
1968 Oct 27th Flowering near railway line opp. Crawford's on Highway.
Scape 20 cm but leaf longer this time about 22 cm although top 6 cm was dried off. Deep groove between calosities at base of labellum.
Infdorescence only about 5 cm long but only a bottom few flowers open so imagine it will be long when all out. Leaf 5 mm wide at ground & groove in leaf not very noticeable.
Scape coming out of leaf at 9 cm high.
Flower yellowish green only color is inside dorsal hood being pollinea & rostellum, these giving gold & brown coloring.
Dec 22nd Flowering Morwell Nat. Park
1969 Feb 9th " up Tyon Ck.
Nov 15th " at Cowwarr.
1971 Nov 13th " " "

1978 Jan. M. bipulvinaris & M. holmesii are both synonymous with M. parviflora & are therefore deleted. (D. Jones, Orchadian 5(6) 84 (1976))
[C. Beauglehole & R. Parsons]

Microtis Parvaflora.

1966 Oct 29th Flowering on our hill.
1967 Jan 1 Flowering in paddock opp. O. hades.
Scape :- 20 cm
Inflorescence :- 8 cm fairly compact
Dorsal Sepal :- 3 mm, hooded.
Lateral Petals :- to side of dorsal sepal giving flanged effect.
" Sepals :- Recurved to make circle 3 mm.
Labellum :- 3 mm, 2 calli at base, pointed or ovate.
Ovary :- 5 mm
Column :- 1 mm green.
Leaf :- 16 cm less than scape.
Nov 4th Flowering Wolfe's swamp.
'68 Oct 27th Flowering near railway line opp. Crawford's on Highway.
Scape 20 cm but leaf longer this time about 22 cm although top 6 cm was dried off. Deep groove between callosities at base of labellum.
Inflorescence only about 5 cm long but only a bottom few flowers open so imagine it will be long when all out. Leaf 5 mm wide at ground & groove in leaf not very noticeable.
Scape coming out of leaf at 9 cm high.
Flower yellowish green only color is inside dorsal hood being pollinea & rostellum, these giving gold & brown coloring.
Dec 22nd Flowering Morwell Nat. Park
1969 Feb 9th " up Tyers Ck.
Nov 15th " at Cowwarr.
1971 Nov 13th " " "
1978 Jan. M. bipulvinaris & M. holmesii are both synonymous with M. parvaflora & are therefore deleted. (D. Jones, Orchadian 5(6) 84 (1976)
[C. Beauglehole & R. Parsons]

1984 Dec 29th Flowering in swampy area on Grasstree Swamp Road in Boodyarn.

1990 Dec 15th Flowering in above area.

1994 Oct 30 Growing in Dawson R'way Reserve.

1995 Dec 12 Flowering on Railway Reserve near Traralgon.

1996 Dec " " " Reservoir Conservation Reserve, T'gon.

rara
Microtis (Oblonga) (Scented)

1966 Oct 30 Flowering on Clark's Road. also on our hill
1967 Jan 14th " along Anderson's Track at pool.

Scape:- 31 cm (usually shorter)
Infloresecence:- 8 mm distant.
Dorsal Sepal:- Pointed, 4mm long, 1mm wide not as hooded as unifolia
Lateral Petals:- Appear to be joined to dorsal sepal 2mm.
" Sepals:- 4 mm recurved to form circle.
Labellum:- 4 mm - 2 calli at base & one (minute) at apex, narrowing blunt.
Ovary:- 7 mm
Column:- 3 mm brown with black tip.
Leaf:- 19 mm, shorter than the scape, rather narrow.

1989 Jan 14 Flowering at Willgulmerang. Dad photographed.
(Name changed to M. rara)

Microtis Unifolia

Oct 29th Flowering on our hill.
Scape :- varies greatly 31 cm.
Inflorescence :- 8 cm flowers distant.
Dorsal Sepal :- hooded 4 mm
Lateral Petals :- 2 mm directly under sides of, dorsal sepal.
" Sepals :- 4 mm recurved at tip.
Labellum :- 4 mm – 2 calli at base. Dilated at sides to form two broad lobes divided at tip to form notch.
Ovary :- 7 mm
Column :- 2 mm orange – with black spot.
Leaf :- like onion leaf – often exceeding inflorescence.

1968 Nov 1st. Flowering in A.P.M. property past Shingle Ck. reserve. Dorsal sepal very broad and acute almost semi circular. Whole flower very open, can see right into centre. In this flower the basal calli almost form ridge because they appear to be joined. Edges of labellum very wavy or crenulate and lower callous quite large taking up a lot of the lower half of labellum . The lateral sepals in some flower almost drooping downwards but slightly recurved at very tip – others curled back forming almost a circle, sepals almost rounded at end. Lateral petals very rounded at top and inclined to stick out past dorsal sepal rather than follow the curve . Labellum very short compared with length of ovary $\frac{1}{3}$ to $\frac{1}{4}$ its length. Ovary broader than flower. Each flower has a stem 1 to 2 mm long.

1969 Jan 1st Flowering at Senini's Track near Austral Leek Orchid. Tall 20 inches high 29 flowers. Lateral petals very spreading but slightly recurved at tips.

Calosities at base of labellum very puffed up like air cushions + nearly covering whole base. They are dark green + smooth. Calus at apex granulate + only half the size of one at base, rather hard to see. Leaf dried off at tip and only coming to base of inflorescence. Lateral petals give flower the appearance of Dutch Hat. Labellum at least ½ length of ovary + in fresher flowers almost as long as ovary. Lateral petals shorter than dorsal sepal.

1990 Jan 18th Flowering along Seninis Track
1969 Nov 2nd " " Briagalong.
15th " " Cowwarr.
1970 Jan 2nd Plants at Tamboritha Saddle very tall. We surmised they were unifolia. Flowering stalk 2'6" high, flowering section 9" with 9 flowers seeds. Leaf 2' long.
Oct 11th Flowering at Heyfield.
1971 Nov 12th " " Flynn & Cowwarr
1993 Jan 31st Flowering in Marshy area in Errinundra N.P.
1994 Nov 26th Flowering in APM block Stradbroke Sth. Gipp. H'way.
Oct 28th " " T'gon Sth Reserve
Nov 1. " " Casuarina " Fulham
Oct 30 Growing in Dawson R'way Reserve
1995 Oct 28 " flowering on Wonthaggi Heathlands
Dec 12 " " " Railway Reserve near Traralgon
1996 Dec " " Railway Reservoir Conservation Reserve, Traralgon

Millotia muelleri
(Toxanthes muelleri.) Common Bow-flower

1971 Sept 2nd Flowering at Mt Arapiles.
Picture in Flowers & Plants of Victoria
Very small plant & flower - flower white with many
petals spreading almost at right angles.
Whole plant hairy, yellow-green, Flower
apparently tubular with little leaves down
stalk. Leaves straplike.

Millotia tenuifolia

1973 Sept 5. Flowering near Lake Eppalock - Bendigo

Mimulus gracilis

1970 Jan 24th Flowering profusely at Wulgulmerang. Purple 4 petalled flower on branched stem. Flowers 2 to three on one branched flowering stem. Leaves in pairs $\frac{3}{4}$" long lanceolate to a fine point, sessile. Flower stalks from leaf bases Flower has white centre.

*

Mimulus Moschatus — Musk Monkey-flower

1978 Dec 15th Flowering below TV tower area. Plant very viscid-hairy. Flowers yellow. Description in Black.

1992 Jan 26th Flowering near Bogong High Plains.

1995 Jan 15th " on Dargo weekend.

1996 " 20th " " Hotham " in village.

Mimulus repens   Creeping Monkey-flower

1980 Mch 29th: Flowering in salt marsh at Pt. Smythe reserve. Little plant with dark purple - typical monkeyflower - flowers. Leaves all around stem.

1980 June 15th Lovely large flowers about ½" across. Flowering along edge of salt marsh off Seaspray - Golden Beach Rd. Plants long up to 2ft, procumbent on the ground & not apparently rooting along the plant. Very colourful with the blue petals & bright yellow bosses. Leaves circular and almost stalkless - tiny.

Mirbellia oxylobioides   Mountain Mirbellia

1970 Jan. 2nd. Flowering at Tamboritha Saddle. Red peaflower growing low to ground and spreading. Quite a lovely sight + vivid in color.

Jan 25th 'Plants seen on Wulgulmerang - Benambra Rd. These plants were bushy about 1 ft high and covered with pinkish brown pods. Pods were inflated with division down middle, giving pod a constricted appearance in middle longitudinally. The plants were covered with pods. The leaves on both kinds of plants were small and in threes!

1992 Jan 21st Plants in seed. on way to Buckety Plain from Angler's Rest. Pods velvety.

1996 Jan 20th Recorded on Hotham weekend in seed at Victoria Falls near Omeo.

1999 Jan 23rd Recorded on Gelantipy weekend.

Mitrasacme Pilosa (Mitrewort)

1967 Jan 14th Tiny matlike plant with pale flowers; flowering on railway side of pond on Anderson's Track, in fact almost on railway line. (Miss Galbraith identified)

1986 Jan. 10th Flowering nearly Early Road on Anderson's Track.

1987 April 25th Plant growing near car park at Ada Tree. Plant covered with stiff brown bristles giving it a very hairy appearance. Mat plant with leaves in one plain & not rooting along stem.

Mitrasacme serpyllifolia Thyme Mitrewort.

1972 Jan 30th Small matlike plant with white flowers. Flowering on Hewitt Plains. 4 petals give flower a square look.

1981 Dec 28th Plants in seed at swamp at Yallourn near Pump House. Also some flowers. Leaves in pairs in opp. directions. Stalks about 3" long, flowers from leaf bases on stems about ¼" long.

1994 Jan 16th Flowering on Mt. St. Gwinear.

1999 Jan 23rd " " Gelantipy weekend. Identified from specimen brought back.

*Modiola caroliniana Red-flowered Mallow

1993 Mch 20th Growing on Knight's property on Tanjil River. Leaves palmatifid into deep crenate lobes.

1995 Dec 12 Flowering + in seed along APM embankment at end of Clements Road Gifford. It also grows in our garden. Illustration in 'Weeds in Australia" Lamp + Collet.

2002 Apr 27th Flowering + in seed at Heyfield Wetland.

[illegible]

Monotoca elliptica Tree Broom-heath.

1969 Aug 16th Flowering at Wilson's Prom. Yellow bell-shaped flowers, waxlike. Tree about 9 ft high. Leaves lanceolate but fairly wide, point at end, point sharp but not strongly so. Bush light green-yellowish. Flowers at end of branches.

Sept 7th Still flowering at Foley's Rd the Prom

27th Flowering at Cellindale.

1971 Aug 22nd " at Lakes National Park. Loch Sport.

Monotoca scoparia (Prickly Broom Heath)

1967 Sept 16th In seed along Rosedale Lime Pit Rd.
1968 Apr 14th Just a few flowers fully out but many buds now. Also at Anderson's track on 15.4.68.
1969 Feb. 16th Flowering Lime Pit Rd Rosedale
Mch 1st " Bush behind Shingle Ck Res.
Mch 30 " " at Gravel Pit on our property. In full flower now.
May 10th Flowering Lime-pit Rd. Rosedale.
One plant in particular in full bloom - lovely sight.
May 15th Flowering at Willung South.
1970 Mch 28th " along Lime Pit Road.
May 25th Very few flowers but many buds on plants at Little Tower - Willung.
1971 June 6th These plants still flowering at Rosedale.
Aug 8th Flowering at Whitelaw's Track T.S. This is late for this plant - is it because of lack of rain & the many sunny days?
Oct 10th Flowering(?) or at least in new area at Rosedale.
1972 Mch 21st " above Waratah Bay.
April " at Chessum Road, Rosedale.
1973 May 13th " " Rosedale
1978 May 7th " in Holey Plains S.P.
1994 Nov. 26th Plants in APM block Stradbroke Sth. Gipp. H'way.
Oct 28th " " T'gon Sth Reserve.

1994 Nov 9th Recorded on Licola weekend.

1995 In Muelleria Vol 8/3 May 1995 a species M. scorparia var submutica is now named M. submutica. But in none of the Census is this name mentioned. Two other Monotoca are described & their names are added

Morinda jasminoides — Jasmin Morinda

1972 July 9. Plant in berry at Billy Goat Bend.
Woody climber with orange berry-like fruits in pairs at end of branches. Berry almost all stone. Leaves with stalks and very prominent side veins as well as midrib - Shiny dark green above, slightly lighter + dull beneath. Leaves opposite with 2 together at end of branches. Quite a wiry climber.

July 22nd Plant at Fairy Dell

1993 Jan 30 Plant growing between Combienbar + Club Terrace.

Mosses

14,000 species in 1952. True mosses are *BRYALES,* peat, bog and spagnum mosses are *SPHAGNALES.* and rock mosses both arctic and alpine are *ANDREALES.* But the differences are not very great.

The second generation produces the sex organs (as do flowering plants). Mosses start with a spore which grows a protonema (threadlike structure), its rhizoids penetrate soil (like roots) then pear-shaped buds grow into leafy stems which grow their own rhizoids and become independent of the protonema which then disappears. The leaves are one cell thick except for the midrib. Leaves of true mosses usually possess a definite midrib. Water is translocated through central strands of leaf and also over the external surface of the plant which can absorb water from dew or rain through almost any part of the external surface.

Sex organs are produced at the tips of the leafy stems. Sometimes archegonia (female) and antheridia (male) can be born on the same plant and sometimes on the same apex, or on different plants and sometimes even on the same shoot with the male lower than the female. Water is necessary for fertilization. Sperms swim to the apex of the archegonium. After fertilization a sporophyte develops. The archegonium stalk is greatly elongated. Then capsule develops covered with the calyptra. Calyptra, when mature, may be erect, pediculus or bent at right angles to stem. As capsule matures, lid or operculum becomes evident. Under the operculum one or several rows of teeth develop. Teeth move outwards in dry weather and inwards in humid weather. Thus spores are scattered in dry weather.

Many mosses are able to reproduce vegetatively as well as by spores. Dense masses can be formed this way with branching by formation of buds at the base of leafy stems and ultimately by the decay of the basal parts the branches may detach and become individual plants. Another method is by protonemata where the original protonema may continue to grow for some time producing several to many leafy stems. More importantly secondary protonema are produced most abundantly as rhizoids at base of leafy stems.

In the evolution of an area mosses are only second to lichens and liverworts in preparing rocky & barren areas for colonization by more highly evolved plants. The moisture, which they absorb, percolates into the crevices of the rocks with the result that the rocks split and eventually are pulverised by frost and - with the addition of humus contributed in a large measure by the decay of the mosses themselves - convert slowly into fertile soil.

It is thought (1955) that the particular kinds of mosses growing in a locality indicate, with a fair degree of accuracy , its suitability for afforestation. Woodland mosses are valuable as their moisture and humus favour the growth of trees and tree seedlings. Seeds of a number of alpine plants germinate most readily when they fall among moss which supplies moisture and protects them from extreme cold. (This information was in an English book.)

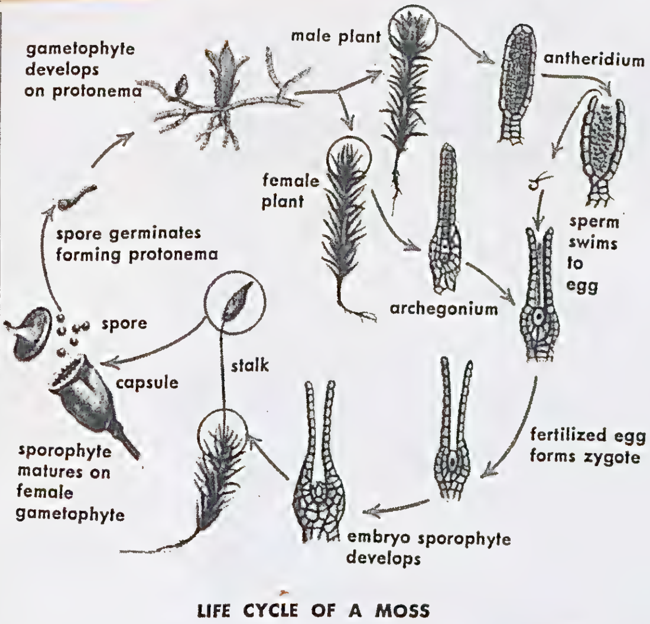


Fig. 23.19 The cord moss, *Funaria hygrometrica*. *A:* Antheridial and archegonial heads on same plant but different branches. *B:* The mature sporophyte develops after fertilization.

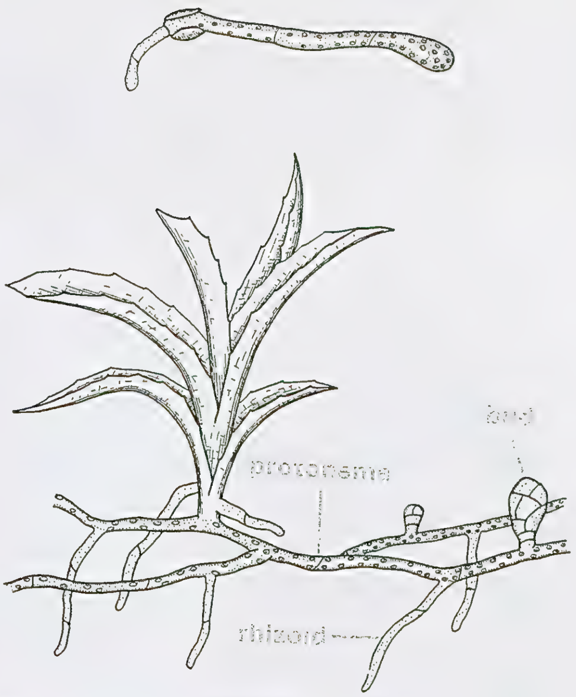


Fig. 23.16 Moss gametophyte. *Top:* Spore germinating and forming a protonema. *Bottom:* Protonema, bearing buds, rhizoids, and erect leafy plant.

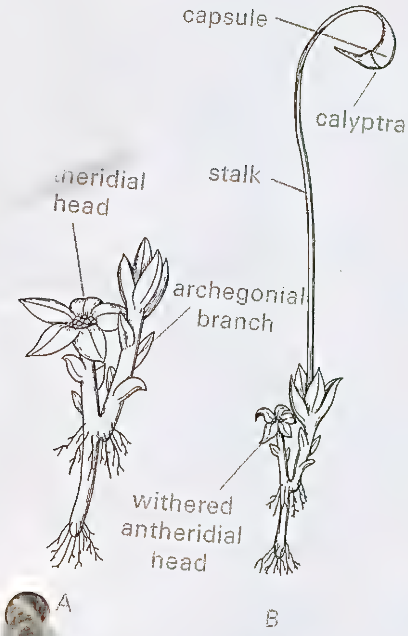
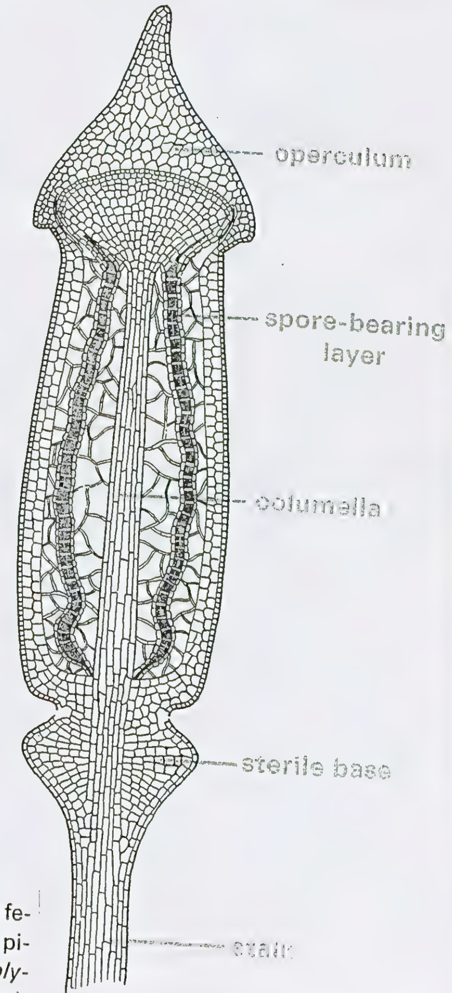


Fig. 23.23 Longitudinal section of a moss capsule (*Polytrichum*).



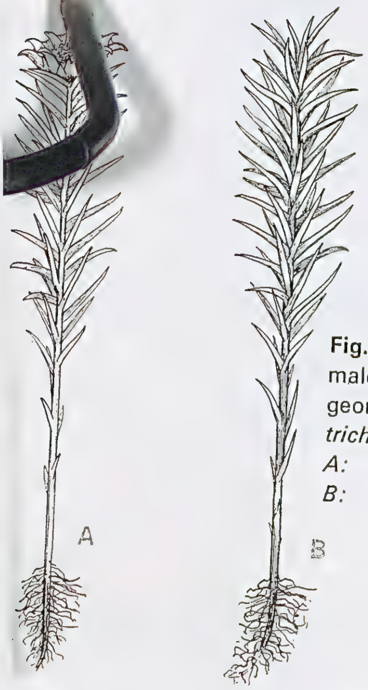


Fig. 23.18 Male and female plants of the pigeonwheat moss (*Polytrichum juniperinum*). *A:* Antheridial plant. *B:* Archegonial plant.

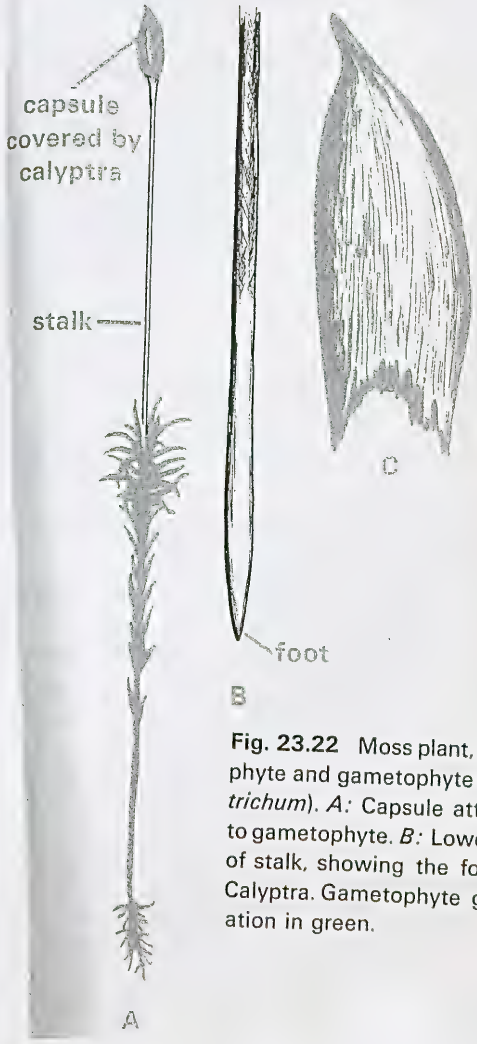


Fig. 23.22 Moss plant, spor phyte and gametophyte (*Pol trichum*). *A:* Capsule attache to gametophyte. *B:* Lower pa of stalk, showing the foot. *C* Calyptra. Gametophyte gener ation in green.

Mosses.

Bushy Club Moss - grows up to 3 ft tall with centre stalk and branches coming out all round. Clubs form on end of branches about 1" long sandy color. Grows at Darlamurla. Fruiting bodies formed July 29th 1967

Big Pine Moss - Pines up to 1" high and ½" across. Fruiting bodies - brown heartshaped bags with white hairs protruding . Grows in bush behind our place. Fruiting bodies formed early May 1967. New leaves commence as ½" red candles. (Slide)

Small Pine Moss Pines about ¾" high or less and about ¼" across, growing much closer together than big pine moss. Fruiting bodies on long red stalks 1" above moss; Fruiting bodies orange tapering to red point when mature apparently opens at bottom. Early August 1967.

Lacy Palm Moss. Morwell National Park. Very lacy like palm trees. Fruiting bodies red like little salt shaker 30th April 1967. (Slide) Hypnodendron arcuatum. (Mr Fuhrer)

Star Moss Velvety green moss, very shiny & dense. More like green stars than pines as leaves are broader. Fruiting bodies on red stalks which do not come out of centre of leaves as do all above mosses but rather from the stem below the leaves. Fruiting bodies like little green cylinders hanging on the stalks. Stalks of fruiting bodies over 1" long above leaves. Middle of August 1967. (Slide)

Sausage Moss leaves like little sausages comprised of successive rings of tiny leaves. Sausages ½" to ¾" long and branched. Fruiting bodies on tiny red stalks no more than ¾" high with tiny curved salt shakers at end.

White Coral Moss Just like coral but very soft to touch, (dries hard) with many tiny holes along the branches & main stalk. Darlamurla 29th July 1967
Related to moss fed to Reindeer in Lapland. (Slide)

Black-tipped Coral Moss. Green coral but much denser than white with only few holes on branches after they commence to branch main stem whole. Edge or tips of branches black. Not as soft to touch as the white coral moss. Darlamurla 29th July 1967 (Slide)

Spagnum Moss Opp T'gon Sth Reserve in Wolfe's. Probably Lowland Spagnum.

Velvet Moss — Lovely light green thick & soft to touch looks like velvet - Cook's Reserve
Leucobryum candidum

Sandworm Moss With thick main part + lots of little side shoots that make it look like sandworm - flat. Cyathophodum bulbosum.

Mosses (2)

Little Fancy Moss   Much branched very fine moss like crochet work. Yellow green - short.
Lepidium Concinnum

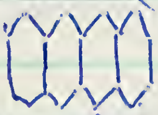
Big Fancy Moss   Similar to above but much long and limp. Still very pretty.
Camptochaete ramulosa.

Bull paddock Moss - Hypnum Cuppressiformis

Pine Mosses from Bulga Park.
Fairly Big - leaves rolled, toothed, fairly close together
Seta red almost 3" long capsule 4mm long green with covering set at angle and long point (light brown)

Whole including seta 15-16cm high
Probably Polytrichadelphus magellanicus 23/11/68

Very Small   Whole including seta 4 cm high
leaves 4mm long 1mm wide not too close together
Moss 2 cm high. Seta - clear to white - 2 cm long
Capsule almost erect clear with brown point on covering. Leaf veins very many longitudinal with border and serated edge. Covering of capsule covers whole capsule (very whiskery inside) 23/11/68
Probably ~~sub~~ Pogonatum subulatum.

Cyathophodum bulbosum (cont)   Bulga Park. 23/11/68
Cell structure 
Main vein very dense.

Pine Moss with hairs at mouth of capsule - Dawsonia.

Feather Moss Close to ground, having matted effect. Leaves standing upright from very matted root system. Leaves up to 1 cm with distinct main vein although almost transparent. Tiny leaflets overlapping each other (Point on top of each) giving leaf the appearance of being entire. Seta 1.5 cm long red. Capsules olive green with long covering point = Teeth around opening leaves flat.
Probably belonging to family Orthorrhynchium elegans but NZ variety has round tips to leaflets while our variety had a pointed leaflet. 23/11/68
Capsule comes from fork of leaves Bulga Park.

Clustered Moss - Leaves clustered around the stem. Slighted elongated but very broad edges, turned in, Yellow green almost clear branch with small offshoots. Matted plant close to ground. Seta red 1 cm Capsule curved over red also. Probably Lembophyllum clandestinum. 23/11/68 Bulga Park.

Very Tiny Moss Leaves irregularly round, cells not joined. No nerve visible edge serrated, no border to cells. Capsule .5cm high no long covering, bit like elongated gum nut. Leaves around stem but sparsely so appearing dotted under low magnification. Whole plant very tiny. Leaves appearing basal but actually quite a few up stem. 23/11/68
Probably Tabriona australis Bulga Park.

Very Tiny Pine Moss Leaves ~~alternate~~ leaves opposite, stem clasping. Cells appear elongated but so tiny hard to see. Capsule ~~Brown~~ Tan & spores tan 3mm without point. Seta up to 5 cm tan & very close together. Moss approx 5 mm high
Very like drawings of ~~Oligotrichum~~ ~~tenuirostre~~ Psilopilum crispulum

Near APM Reserve.

Mosses

A Lacy Tall Moss.

Turkin's Creek 4·4·70.

Unusual thing about this moss is that the stalk to the capsule is decidedly wavy instead of straight. The stalks are 4 cm long and straw color but as the capsules are pale green, it could be immature. Moss is 2·5 cm high, leaves also wavy 1 cm long app. 1mm wide - app + at right angle (hirsute) points turn up, stem clasping. One capsule brown so others were immature.

Edge of leaves toothed.

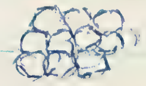
Cell shapes are 4 or 6 sided. When six sided the two long sides are only just pointed. Cells are in regular rows a destinct enough to give leaf a long-veined effect to the naked eye.

Round-Leafy Moss

Turkin's Creek 4.4.70.

Moss 3 cm, leaves in pairs but only on way so that the branches appear flat. Leaves round irregularly toothed, vein only going half way

Cells irregular almost round not in rows.



Capsule not mature, stalk 2 cm end of capsule + point not visible yet, just long pointed capsule

Old Man's Beard.

Ada Tree area 25-4-87

Soft, pendulous species on twigs of trees, in humid fern gullies

Weymouthia mollis

Weymouthia cochlearifolia is coarser plant on trunks and branches rather than twigs not in humid forest.

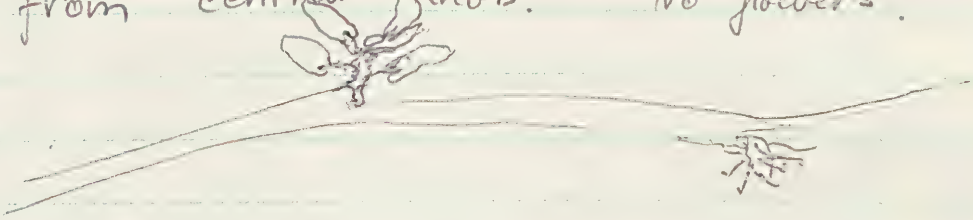
Muehlenbeckia adpressa. Climbing lignum

1970 Mch 7th Plant growing along foreshore at Waratah Bay. Tough creeper with brown stems and rounded leaves (smooth + yellowish green). Did not notice any flowers but Miss Galbraith's book says flowers are minute in slender axillary clusters so may have missed them.

1996 Oct 15th Plant growing at Paradise Beach at 2nd pipeline at N.P.

Muehlenbeckia adpressa Climbing Lignum.

1978 Sept 23rd Growing at Bear Gully near Cape Liptrap. Leaves undulate on margins. Brown stems with clumps of leaves about 1½" apart. from central knob. No flowers.



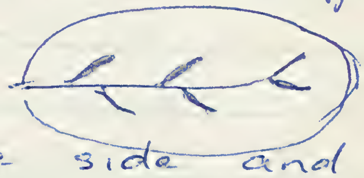
Muehlenbeckia diclina Twiggy Lignum

1972 Dec 27th Plant growing along side of road near Mr Skein. Scragly bush about 3 ft high. Stems woody, leaves lanceolate about 1/2" long and several leaves from same base. Scales at base of leaves sheathing and almost transparent, broad, but also seemed to have stipules that were long and narrow but not hairlike, much more substantial. Flowers with 5 segments almost little circles, green - reddish. Ovary in centre of flower with jelly-like style divided into 3 fringed segments. Female flower has barren filaments. Flower segments divided to base. Nut triangular, black and slightly warted, but with rounded edges to triangular.

1994 Nov 9th Recorded for Liedla weekend.

Muellerina celastroides (Coast Mistletoe)

1980 June 15th Plants found growing on __Banksia integrifolia__ (Coast Banksia). Leaves were stiff light green rounded at apex – almost succulent & brittle.



Berries were red on one side and apparently growing in a raceme by the marks where the fruit had fallen off. About 6 was the most we found still on the stalk. Roots were mainly on the underside of the branches although they had travelled out onto the thinner branches. There was quite a lump where the plant had apparently started & the branch past that had fallen off. Whole plant was very conspicuous among the dull leaves of the Banksias. Sent specimens to Dr Parsons, LaTrobe Uni.

Muellerina eucalyptoides (Common Mistletoe)

1968 Jan 14th Flowering along track. 3 nerved leaves, much shorter than drooping mistletoe, roots visible on branches, plant creeps along branches & then grows upwards. Flower: centre one not stalked but end ones at right angles. Flowers greenish yellow long tubes spreading at bottom to show lovely red lining. Stigma protrudes below stamens and as flower matures tube splits & stigma turns upwards through split Miss Galbraith says it will continue until at right angles to tube. Flowers grow in pairs but each pair opp to the last pair.

1969 Feb 1st Flowering at Tyers.

1972 July 29th Plant growing along Sealon Road.

1973 Sept 3rd " " - One Tree Hill. Bendigo.

1984 Jan 10th " flowering on Casuarina littoralis in Mullungdung forest.

Jan 13th Plant growing on Lucerne Tree in orchard, flowering.

1993 Jan 31 Plant flowering in Errinundra N.P.

1993 Feb 26th Flowering in bushland along track to Red Bluff beach at Yanakie.

1996 Dec Growing along Old Melb Rd near Latrobe Rd, Moe.

2006 Nov 4 " at Springsure area

*Myoporum insulare — Common Boobialla.

1992 Apr 25th Plants growing in Nooramunga Coastal Reserve near Port Albert

1993 Feb 23rd Plants with lovely violet purple berries on coast at Red Bluff beach near Wilson's Prom.

1994 Oct 30 Recorded for Dawson R'way Reserve.

Myoporum platycarpum Sugarwood.

1972 Aug 28th Plant growing on road to Little Desert.
Tree tall, leaves up to about 1" or a little
more ending in fine point but not pungent.
Leaves very thin. Branches appear
twisted as they slant at each branchlet.

Plant identified by Mr Lindner.

1972 Sept 6th Plant growing in Whipstick

Myosotis australis (Forget-me-not.)

1967 Jan 4th. Very like garden flower only very small. Flowering up near T.V. masts.

Dec 23rd Flowering Morwell National Park

1971 Jan 30th Flowering on plains at Howitt Springs. Plant has basal leaves large over 2" long. Flower stem branched and fairly fine. Flowers very tiny for such a healthy plant. Plant about 1ft high.

1992 Jan 26th Flowering Buckety Plains area. Calyx with spreading hairs. Very like illustration in "Flowers & Plants in Victoria".

1994 Jan 16th Flowering on Mt. St. Gwinear.

1997 Jan 18th " " Mt Nugong.

Apr 5th " in APM Reserve – Grand Ridge Rd.

laxa ssp. caespitosa.

Myosotis ~~caespitosa~~ Water Forget-me-not.

1990 Dec 15th Flowering on crown land block 2 km past 2nd Willung Hall Road. Stamens enclosed & calyx tube longer than style. Hairs on calyx appressed straight hairs. Flower definite blue; 3 mm. diam. Growing in damp area. Plant 420mm, rather sprawling leaves tapering to base & stem clasping about 1/3 round stem. Leaves 60 mm long 13 mm wide sparsely hairy with single hairs on upper surface but villous all over under surface and longer single hairs sparsely spaced. Leaves alternate. Stem similarly hairy.

Flowers in spike with flowers alternate on long pedicles, 5 calyx lobes and top of spike curled over.

Peduncles single for axillary ones but final one divided with flower at junction.

Myriophyllum amphibium   Broad-leaf Water-milfoil

1987 Sept. 24th Plant growing in Little Monkey Creek on Joyce's Road, in Mullungdung. Unusual myriophyllum as leaves are entire & not dissected.
Leaves spathulate, opposite, branches at leaf bases – 3 to 5 parallel veins on leaves & roots at nodes. Illustrated in Helen Ashton p. 80.

*Myriophyllum aquaticum   Parrot's Feather.

1993 June 2. This plant was formerly known as M. brasiliense in Willis, etc.
Plant growing in Sale Common in swampy, marshy area near long boardwalk. Very plentiful at this time of year. I cannot find any flowers on our specimen. Plant quite glaucous in colour. Leaves - Willis says "pectinately divided" which apparently means like teeth of a comb which means, I suppose, that each segment is joined to the midrib flatly & not jointed. All leaves the same and outline of whole leaf is oval with app. 36 divisions. Leaves in whorls of 6 around brownish stem. On maturity leaves in water lose segments just leaving midrib. The plant not recorded for X1. Will send specimen to Dr. Parsons.
Good illustration in Helen Aston - Aquatic Plants of Australia p.82. New name in Flora of Australia & Census 4th edition. Helen's answer to my letter overpage.

1996 March 2nd There is quite an area of die-back of this plant near the western end of the large boardwalk but other ~~areas~~ areas close-by appear unaffected. I do not know if it has been treated in the area or if it is natural die back as mentioned in Helen's letter. I will try to find out if CNR have used chemicals.

1996 Oct 4 Plant growing in dam on Railway Reservoir Conservation park both on northern bridge near reservoir also on eastern side & both sides of southern bridge.

Dec Ditto.

ROYAL BOTANIC GARDENS
MELBOURNE

BIRDWOOD AVENUE
SOUTH YARRA VICTORIA 3141
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ROYAL BOTANIC GARDENS
NATIONAL HERBARIUM OF VICTORIA
CRANBOURNE BOTANIC GARDEN

Mrs O. Thompson,
P.O. Box 644,
Traralgon 3844.

29 June 1993.

Dear Bon,

Thank you for the information about Myriophyllum aquaticum in Sale Common, and the specimen which will eventually reach MEL via Bob Parsons at LTB.

Concerning flowers, only female ones have ever been found in Australia. I expect you will find plants in flower as the summer approaches.

The species has become quite widespread in Victoria's eastern half since first recorded around Melbourne in the 1960's, e.g. it is now known from Lake Nagambie, from One-Mile Creek, Wangaratta, and now from Sale, as well as from Lakes Entrance 1969. In 1978 it grew vigorously on ponds on Kew Golf Course, Melbourne and the Golf Club used chemical treatment to clear it. In South Australia in 1978 it was vigorous, dense and extensive in water channels around Mypolonga, Murray River, and the Water Pollution Control Authority of the Engineering and Water Supply Dept. commenced chemical control — I never heard the results of their work.

In areas around Melbourne where it was initially very rampant and dense it later died back over several years. It seems to follow the pattern shown by Elodea canadensis, another introduced aquatic, where growth is limited to vegetative spread because no seeds are set.

P.T.O.

Initial vigour and rapid spread gives way to degeneration and sparsity, as the species settles into an equilibrium ~~with~~ its surroundings. The early spread can be quite alarming however, and can out-compete other native species.

I really don't know what chemical work, or what monitoring of populations (if any) has been done to assess ~~the~~ potential of M. aquaticum for environmental damage in Victoria. Its own die-back may be self-controlling in small pondages but in a place like Dale Common it could cause damage over years before becoming relatively harmless. I think you should consult weed control authorities to see if the species can be wiped out at this stage without causing detrimental side-effects which are too unacceptable.

Yes, my retirement is giving me time to continue my aquatic plant researches and I am currently finalising work on Triglochin procera "Water Ribbons" which is not just one species at all. Four others have been split from it already (see my article in the last Muelleria 8¹: 85-97 (April 1993) and there is still a complex left behind.

Please give my best wishes to Jean Galbraith. I am delighted that David Albrecht and Neville Walsh have just named Boronia galbraithiae after her, for the species which she first brought to their attention.

Kind regards,

Helen I. Aston.
Honorary Research Associate,
(MEL).

DEPARTMENT OF CONSERVATION & NATURAL RESOURCES
CENTRAL GIPPSLAND REGION, 71 HOTHAM STREET, TRARALGON, 3844 TELEPHONE: (051) 722111 FACSIMILE (051) 722100

Your Ref:
Our Ref:

Date: 5/1/94

MEMORANDUM TO: Neville Penrose

FROM: Andrew Horner

SUBJECT: **Brazilian Milfoil infestation in the Sale Common**

Philip Moulton, Peter Lawrence and myself inspected the Sale Common, Wednesday 5/1/94, to determine as far as possible the extent of the infestation of Brazilian Milfoil, the effects it may be having on the wetland and possible control strategies that might be employed to control the infestation.

The plant is present in varying degrees throughout the Sale Common and is present in Flooding Creek, there is no physical reason why the plant could not move down the Thompson/Latrobe River into the Lake System. Some observations about the weed were noted which should give some confidence as to the likely potential of the weed to affect the wetland system.

1. The plant does not thrive in areas which are exposed to the wind, the heavy infestations were all restricted to areas which have some degree of protection from wind or wave action.

2. The native species of Milfoil, probably M. propinquum, is very competitive with the invader in the drier edge portions of the wetland area, restricting the bulk of the Brazilian Milfoil to the extreme edge of the water line.

3. The plant is not found on steep banks, this leaves many edges clear of the plant or in low levels of infestation.

4. There is some biological control in the form of a beetle, the Haltica ignea. This black flying beetle and it's larvae were found on site, eating Brazilian Milfoil.

It is not practical ecologically, ecomomically or operationally to attempt to eradicate the infestation, as the cost would be large and probably wasted as complete eradication would be difficult to achieve and re-infestation almost certain in subsequent seasons. Some modifications to the water level by lowering the water in the wetland may have some short term benefit but would be unlikely to deliver any medium to long term benefit.

It is difficult to establish from our observations that Brazilian Milfoil constitutes a major threat to the integrity of the wetlands or major lake systems.

Myriophyllum crispatum Upright Water-milfoil

2000 Apr 11th Growing in Heyfield Wetland. Think this plant was part of M. propinquum previously.

2002 Apr 27th Growing at Heyfield Wetland.

2005 Mch 3 " " Railway Reservoir Cons. Res. T'gon. See key under M. propinquum in this book.

Myriophyllum pedunculatum Mat Milfoil

1996 Dec Growing in Railway Reservoir Conservation Reserve, Traralgon

Myriophyllum (pedunculatum) propinquum. water milfoil.

1967 Feb 12th Flowering in sphagnum moss at Wolfe's property. (See Myrrophyllum verrucosum)

1968 Jan 28th Flowering as above, leaves entire.

1972 Jan 30th " " Howitt Plains – 4 petals, 4 sepals, 6 stamens, 4 sections to top of style. leaves decussate.

1993 July Census 4th Ed. 1993 divides this plant into 4 species Will have to check which one.

1994 Nov 26. In A.P.M block Stradbroke Sth. Gipp. H'way.

Oct 30 " Dawson Water Reserve

" " " Rway "

1996 Dec " Railway Reservoir Conservation Reserve, Traralgon

2003 June. In 7th ed Census this species is divided into 4 species.

Myriophyllum propinquum.

This species has now been divided into 4 species. The following key only applies to these four species.

1 Lower or submerged leaves always in whorls 2
1 All leaves alternate, opposite or irregularly arranged 14
2 All leaves in whorls 3
3 Emergent leaves terete, lanceolate, ovate, entire or toothes, never pinnately divided like teeth on a comb. 6
6 Emergent leaves terete or lanceolate (more than 3 times as long as wide) 7

7 Stems usually with elongated protuberances (papillose), all emergent leaves coarsely toothed, flowers & fruit in clusters; stigmas mauve or purple M. papillosum
7 Stems glabrous or with crisped hairs, uppermost emergent leaves more or less entire; flowers and fruit solitary; styles white to pink, 8
8 Stems usually with crisped hairs, emergent leaves in whorls of 5-8, flowering shoots spindle-shaped M. crispatum
8 Stems glabrous, emergent leaves in whorls of 3-6; flowering shoots more or less cylindrical, tip truncate. 9
9 Plant aquatic, emergent leaves usually in whorls of 5, styles white, fruit yellow-brown. M. variifolium
9 Plant aquatic or semi-terrestrial, emergent leaves usually in whorls of 3 or 4, sometimes irregularly so; styles pink fading to white; fruit reddish-purple M. simulans

M. simulans occurs in 2 other sections of the original key with submerged leaves in whorls and in another place with at least some leaves in whorls.
M. crispatum & *M. simulans* are recorded near Dawson; but not the other 2 so far.

Myriophyllum variifolium Varied Milfoil.

1996. Dec Growing in Railway Reservoir Conservation Reserve, Traralgon.

Myriophyllum Verrucosum

1967 Feb 12th Flowering in sphagnum moss at Wolfe's property.
Haloragis - type flowers, like tiny pine trees - growing
in water.

1968 Jan 21st Flowering as above. leaves serrated or toothed.

Myriophyllum verrucosum. f.2 Red Water-milfoil

1999 Oct 16th ~~Here~~ Growing in Benlac Wetland, Barnum.

Lower + submerged leaves always in whorls & all other leaves. Emergent leaves pinnately divided with narrow segments closely set like the teeth of a comb. Leaves in whorls of 4 + distantly separated.

MYRTACEAE

Genus	Eugenia / ACMENE	MELALEUCA	CALLISTEMON	LEPTOSPERMUN	EUCALYPTUS	ANGOPHORA
Size	Trees or Shrubs.	Shrubs or trees.	Shrubs or small trees	Shrubs or rarely trees	Trees or mallees.	Trees or shrubs
Leaves	4 cm or more opposite penniveined petiolate	<4 cm. opposite or alternate often gland dotted.	<4 cm or 4 cm or more. never opposite petiolate sometimes prominently gland dotted.	<4 cm alternate	4 cm or more usually alternate; of 2 different kinds penninerved.	4 cm or more opposite 2 different kinds. lateral veins close straight & parallel
Fruit	Berry seed solitary	Opening by valves woody capsule	Dry Woody capsule valved.	Opening by valves	dry - dehiscing by valves.	dry capsule, ribbed woody & hard. dehiscing by immersed terminal valves.
Ovary	Almost inferior	half-inferior	half-inferior.	probably half-inferior	Superior ie sunk into tube.	inferior
Flowers	many flowers in a panicle. 4 - 5 petals	Spike-like or in dense heads. 5-numerous 1-3 per bract. Petals 5	spike-like bottle-brushes. 5 - numerous 1 per bract. 5 petals exceeding sepals.	Auxiliary on condensed leafy shoots. Solitary or in clusters of 2 to several. Petals 5.	Panicles - buds covered with operculum auxiliary umbels 3-7 flowers Petals absent.	Panicles - buds covered with sepals finally free. 3 - 7 flowers Petals 4 or 5
Stamens	numerous	Longer than inconspicuous petals filaments united into 5 bundles <1 cm long.	numerous at least twice as long as petals free >1 cm	Shorter than petals 10 - 45 or scarsely longer than petals	free numerous.	free numerous
Calyx-lobes or Sepals	4 or 5 smaller than petals.	usually 5 deciduous in fruit.	5 deciduous	5 deciduous	absent.	4 - 5
Species	7 in Aust. 6 endemic 1 in Vic.	240 species mostly Aust.n 13 in Vic	About 30 species endemic to Aust. 9 in Vic.	82 species in Aust. only 2 not endemic 17 in Vic.	± 800 species all but a few endemic in Aust. 93 in Vic	13 species in Eastn Australia all endemic 1 in Vic.
Name Meaning	Gk. Acmenae = beautiful nymphs of Venus. probably fruits & flowers	Gk melas = black leucon = white. contrasting colours of bark.	Gk kellos - beauty stemon - stamen	Gk. lepto = slender or thin or narrow. spermum = seed.	Gk. eu - well kalyptos - covered operculum.	Gk Angos - goblet or vessel. phoros - carrier shape of fruits

	Eugenia ~~[illegible]~~ Acmena	Callistemon ~~Calytrix~~	Eucalyptus	Angophora	Tristania	Kunzea	Melaleuca	~~Callitris~~ Leptospermum	Baeckea
Leaves	4 cm or more T or S; opposite; penniveined; pinnately veined petiolate	<4 cm; 4 cm or more; never opposite; petiolate	T or mallees; 4 cm or more; usually alternate; 2 different kinds; penniveined	T or S; 4 cm or more; opposite; 2 different kinds; lateral veins close straight & parallel	Tristaniopsis; 4 cm or more T or S; alternate; petiolate; venation obscure	<4 cm	<4 cm	Shrubs or rarely trees; <4 cm; alternate	<4 cm; opposite
Fruit	a berry; seed solitary	dry	dry - dehiscing by valves	dry; capsule ribbed; woody hard	dry; Capsule smooth; seeds mostly winged	Opening by valves	opening by valves	opening by valves; capsule	opening by valves
Ovary	almost inferior		superior ie sunk into tube	inferior	half-inferior				
Flowers	many in panicles; ~~buds covered~~; 4-5 petals	bottlebrushes; spikes; Calyx. lobes deciduous	panicles; buds covered with operculum; axillary umbels; single or in 3, 7, 10, etc; Petals absent	panicles; buds covered with sepals; finally free; 3-7 flowers; Petals 4 or 5	panicles; buds covered with sepals; finally free	In leafy spikes		auxiliary on condensed leafy shoots. Solitary or in clusters of 2 - several; Petals 5.	
Stamens	numerous	Filaments free; usually > 1 cm.	numerous	free; numerous.	united in 5 bundles; numerous	long; numerous; free.; persistant on matured fruit	longer than inconspicuous petals.; Filaments united into 5 bundles <1 cm long.; deciduous	Shorter than cor. petals; 10-15.; deciduous; 5.	Shorter than cor. petals; 5-15; deciduous
Calyx-lobes or sepals.	4 or 5; smaller than petals; 7 species in Aust; 6 endemic		absent; ± 800 species all but few endemic to Aust.	4 or 5; Eastern; 13 species in Aust all endemic	5; 3 species in Aust			82 species in Aust only 2 not endemic.	

	Thryptomene	Micromyrtus	Darwinia	Calytrix
Leaves	<4 cm; flat > 5mm glabrous	<4 cm; ~~flat > 3mm~~ <4mm; ~~glabrous~~ tuberous; minutely ciliolate	<4 cm	<4 cm
Fruit	Very small <3mm wide; not opening, nut like	Very small <3mm wide; not opening, nut like	Very small. <3mm wide; nut-like not opening	Very small <3 mm.; wide - not opening; nut-like
Flowers			Small corymbose heads	
Stamens	Style glabrous; 5 or 10	Style glabrous; 5 or 10.	Style bearded.; 10.	Style glabrous; 20-30.
Calyx-lobes	Sepals never awned; Sepals non-ciliolate; Tall shrubs.; [illegible]	Sepals never awned; Sepals ciliolate		Sepals often [illegible]; end[illegible]; [illegible]

As far as I can ascertain the general features of Myrtaceae are that the leaves are dotted with small oil glands & often aromatic. The book states the glands are conspicuous but I suspect this means visible with a glass in some cases. The plants usually have 4 or 5 ~~sep~~ petals & the same number sepals although in Eucalypts the petals & sepals are absent; hence the 'usually'.

The difficulty in giving general features comes from the fact that ~~Myrtaceae~~ when using keys to flowering plants Myrtaceae occurs in 4 different sections of the key. This occurs in the 3 keys I have in Willis, Flora of Vic & Flora of N.S.W.

In Willis Myrtaceae comes in 2 places in Group C & again in Groups F & G.

C has Ovary inferior or partly so while F & G come within Ovary superior

C. has petals at length free (sometime cohering above, but then with claws free at base)
while F & G. have petals all united, at least at the base, but the tubular portion sometimes short.

F & G are separated by F. Perianth corolla-like & usually brightly coloured.
while G. has perianth wholly greenish and calyx-like or scarious or 0.

The two Myrtaceae sections in C are separated by stamens numerous (≥10) and stamens 10 or fewer.

This all shows the variation within the family.

It was split off from ~~Eugenia~~ Eugenia family & we still have one Eugenia in Z'land. In census 1984 as Acmene.

Lilly-pilly has ~~changed~~ its genus name from Eugenia to Acmene. Eugenia 1813 Acmene 1848 narrower limits but remained Eugenia until 1938 but still Eugenia in Willis in 1972.

Tristania has been split into Tristania & Tristaniopsis with the true Tristania in N.S.W. only species in world. I think these are separated by the way the fruit is either not exerted or exerted & the fact that Tristania has linear seeds & Tristaniopsis has winged seeds.

	Eugenia Acmene	~~Callistemon~~ Melaleuca	Eucalypts	Angophora	Tristaniopsis	Kunzea
	Trees & shrubs	Shrubs or Trees.	Trees & mallees.	Trees or shrubs	Trees or shrubs	Prostrate shrubs to small trees
Leaves	4 cm or more opposite, penniveined petiolate	< 4 cm. opposite or alternate often gland dotted.	4 cm or more usually alternate of 2 different kinds penninerved	4 cm or more opposite 2 different kinds lateral veins close straight & parallel	4 cm or more alternate petiolate venation obscure	< 4 cm. alternate, entire shortly petiolate
Fruit	a berry - seed solitary.	Opening by valves woody capsule.	dry - dehiscing by valves ~~Capsule ribbed woody hard~~	dry-capsule - ribbed woody & hard	dry capsule smooth seeds mostly winged.	dry capsule
Ovary.	Almost inferior	half inferior	~~Superior~~ superior ie sunk into tube.	inferior	half-inferior	half-inferior
Flowers	many in panicles 4 - 5 petals	Spike-like or in dense heads 5-numerous 1-3 per bract Petals 5.	Panicles - buds covered with ~~sepals~~ operculum ~~finally free~~ axillary umbels 3-7 flowers Petals ~~4 or 5~~ absent	panicles - buds covered with sepals finally free. 3-7 flowers Petals 4 or 5	panicles. buds covered with sepals finally free ~~Flowers [illegible]~~ sessile or subsessile	In leafy spikes head-like clusters.
Stamens	numerous	Longer than inconspicuous petals. Filaments united into 5 bundles < 1 cm long.	free numerous	free numerous	United in 5 bundles numerous	numerous in one or more distinct rows. much longer than petals. Petals 5.
Calyx lobes or sepals	4 or 5 smaller than petals	~~Has sepals~~ 5 usually deciduous in fruit.	~~4 or 5~~ absent	4 - 5.	5	5
Species	7 in Aust. 6 endemic	240 species mostly Austn	~~15 species in East Aust. all endemic~~ ± 800 species all but a few endemic in Aust.	13 species in Eastn ~~[illegible]~~ Aust. all endemic	3 species in Aust.	36 species in Aust & NZ. Genus needs revision
	Acmene - Gk. Acmenae - beautiful nymphs of Venus probably the fruits & flowers	Gk melas = black leucon = white. contrasting colours of the bark.	Gk eu = well kalyptos = covered operculum	Angos = goblet-vessel. phoros = carrier shape of fruits.	Gk opsis resemblance Tristania = plant genus after French botanist Jules MC Marquis de Tristan.	Gustav Kunze. Professor of Botany in Leipzig.

	Callistemon Shrubs or small trees.	Leptospermum Shrubs or rarely trees.	Baeckea Shrubs	Calytrix Dwarf to large Shrubs.	Micromyrtus Shrubs	Thryptomene Shrubs -3m.	Darwinia Prostate to medium shrubs
Leaves	<4 cm or 4 cm or more never opposite petiolate sometimes prominently gland dotted.	<4 cm alternate	<4cm opposite	<4 cm mostly alternate sometimes opposite	<4 cm <4 mm hugonous minutely ciliolate opposite.	<4 cm flat >5 mm glabrous. opposite.	<4 cm opposite
Fruit	dry. woody capsule.	opening by valves capsule.	Opening by valves capsule	Small <3mm wide - not opening nut-like falling when ripe. inferior	Very small </3mm. not opening nut-like inferior	Very small <3mm wide not opening nut-like. inferior	Very small <3mm wide nut-like. not-opening inferior
Ovary	half-inferior	probably half-inferior ~~or sub~~ ~~ovary-placentation axile~~ ~~& usually just above middle~~ ~~of central axis~~	half-inferior				
Flowers	Spike-like bottle-brushes 5-numerous 1 per bract. 5 petals exceeding sepals.	Axillary on condensed leafy shoots. Solitary or in clusters of 2-several Petals 5.	Axillary usually single flowered. rarely to 9 flowers in umbels. Petals 5.	Axillary 1 flowered Petals 5. free	Axillary 1-3 flowers on common peduncle. Petals 5	axillary 1-3 flowers Petals 5	Axillary 1-3 flowers Petals usually 5.
Stamens	numerous. at least twice as long as petals file >1 cm	Shorter than petals 10-45. or scarcely longer.	Shorter than petals 5-20. in one row.	numerous. 20-30 Style glabrous	Style glabrous 5-10.	5-10 Style glabrous	~~20-30~~ 10 Style ~~glabrous~~ bearded. 5.
Calyx lobes or sepals	deciduous 5	5 deciduous	5-lobed	5 lobed persistant Sepals often ending in awn-like point or bristle	Sepals never awned 5.	Sepals never awned non-ciliolate 5	
Species	About 30 species endemic to Aust.	82 species in Aust. only 2 not endemic	115 species mostly in southern Aust.	About 70 species in all states but mostly SW Western Aust.	22 species in southern & central Aust.	32 species in Southern central & NE Aust.	~~32~~ 60 species in all mainland states except NT. mostly SW Western Aust.
	Gk Kallos = beauty stemon = stamen	Gk lepto = slender thin or narrow - spermum = seed.	After Dr Abraham Baeck - Swedish naturalist.	Gk. Kalyx = calyx thrix = hair awns	Gk ~~mikro~~ mikros = small myrtus = myrtle. Part of myrtle family	Gk. = made small.	Dr Erasmus Darwin - grandfather of Charles Darwin